No. 49.

Field Book

of

W. L. Jepson.

– 1929 –

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Berkeley, Calif. and receive Reward.

Berkeley, Jan. 2. 1929.

- Dr. J.W. Blankinship, one-time botany student here under Prof. Greene, Ph.D. of Harvard, Professor of Botany in the University of Montana at one time, now lives on a walnut ranch which he has started on the slopes of Mt. Konocti, Lake Co. He has come to Berkeley for the winter to work in the Herbarium. He says that he has been divorced by his wife; it soured upon marriage, and says, the further that in the matter of the partnership he, himself did everything for the common good but that it did not avail. He has one daughter, now married.

– John Thomas Howell has just arrived from the Rancho Santa Ana. I asked him if he had been able to adjust himself to the ways of Mrs. Bryant. He replied with a little asperity that he did not feel it to be his duty to adjust himself to Mrs. Bryant. He feels that she has no proper appreciation of his status as a botanist and expects an amount of work performed which is out of the question. She has an idea of how much laborers can do in working on the ranch and makes no unreasonable demands – but in the case of botanical matters she has no experience to serve her as a guide, so he says. It seems that Mrs. Bryant does not consult him before taking certain steps which he, Howell, thinks she ought to do. And much more. Evidently he is not at all pleased with Mrs. Bryant's policy (Cf. F. B. vol. 50, p. 149, Jan. 5, 1928).

My secretary, Mrs. C. D. Howard, had never met Howell before. When he came in to the laboratory I was out (and away). Mrs. Howard was not pleased with him: She said: "Your young fellows here are so fine: Mr. Mann lifts his own weight. Mr. Goddard lifts his own weight. Mr. Meyer likewise. But Mr. Howell lies right down on you!" It is wonderful

how discerningly she appraised him; but he has fine stuff in him, nevertheless, which must be developed. — Dec. 20, 1928. {cf. Men & Manners 4:88}

— Miss Elizabeth Morse gave the talk before the California Botanical Society on Thursday evening, Dec. 20. She was very sprightly and vivacious in her talk. Amongst the various fungi which she showed examples of was a large "heavy-set" one, Sullellus eastwoodae, discovered by Miss Alice Eastwood in Golden Gate Park. It belongs to the Boletaceae.

— At the Christmas dinner of the Faculty Club I sat between H. M. Evans and R. W. Chaney. Opposite sat a naval

officer and the talk fell on the Asiatic Expedition of the American Museum of Natural History. Said Chaney: Granger, a wonderful man, an outstanding asset to the expedition, not an educated man, but a good observor. George Olsson was a rumble-whacker who was taken along as being generally useful. Utterly uneducated but a wonder for seeing things. These men and others of their untrained kind discovered 95% of the finds [scientifically] made by the expedition. Roy Chapman Andrews, head of the expedition, is a great organizer and leader, but he discovered little himself".

The above was brought out apropos of whether University training does not ruin a real

genius. The dinner was on Dec. 11.
— The United States is the only civilized country in the world [whose government] does not recognize distinguished work by civilians [scientists]. — Sci. 58: 422.
— I find in the Brandegee herbarium two different species on one sheet: Thelypodium lasiophyllum and Caulanthus sp. A bit of Mrs. B's slanderness. Mr. Goddard came in to the lab. one day. He had just read the biography of Mrs. B. in our Botany series. "What a whitewash"! he exclaimed. He is a young student and had no basis for his remark except from reading Mrs. Bo

journal, ZoE. — Nov. 15, 1928.
— A fine student taking work for the Ph. D. in Botany is David Keck. About two months ago he took, under my direction as Chairman, his preliminary examination. He failed utterly. It was a great surprise to me. He is the author of a good-looking paper, a Revision of the Genus Orthocarpus, in the Proceedings (published) of the California Academy of Sciences. But he could not tell what were the characters of Scrophulariaceae! Nor what living family, nearly related, from which Scrophulariaceae might be derived. After Solanaceae was mentioned to him he could not describe the family characters. He said the fruit of Lab-

iatae was capsular! Now, all this had a reason. He comes from Pomona College and is a victim of Munz's formalism. Without adequate preparation, one year or two, his students are given a genus to specialize on! Keck admitted to Mason, after the examination, that he had never thought about the characters of Scrophulariaceae and yet he had been specializing in that family!

Keck took his defeat in a splendid way. He came to me, recognized that he had failed, realized his defects, and expressed his determination in a fine

manner to retrieve himself.

The examination was held Oct. 17, 1928. One of the men on the committee, I think A.R. Davis, said that Munz was trained as an entomologist and became a botanist because a position offered.

— D. B. Parish. His field numbers run up to 20.023 (Mar. 26, 1920), Indian Wells, Colorado Desert, (Chaenactis carphoclinia), at least. [Parish's numbers run to 11,427 in 1907, — (Atriplex canescens). I feel that there is a considerable gap between the 11,427 and 20,023 not used.]

— Rev. J. C. Nevin. Has a son, L. B. Nevin, who lives at Durham, Calif. His daughter, Elizabeth Nevin, is a student in dept. of Botany.

— Vancouver, Geo. There is a portrait of him in the National Gallery, London.

— Indexing correspondence, the secretary ran across Dr. A. L. Grant's letters and commented racily on Mrs. Grant's very obvious personal characteristics. I quoted Dr. K.M. Wiegand's query: "Did Mrs. Grant really like Botany or did she merely wish to use it as a platform for a career"?

"I should say as a spring board", promptly replied the secretary, Mrs. C.D. Howard. — Jan. 13, 1929.

— On Armistice Day — a fine quiet day for work because the buildings are closed — the Botany Bldg. was located in the boreal

zone; it was colder than an ice-box — the one day an investigator had a chance to work. — Jan. 13, 1928.

— The remainder of the fine old Carolina Poplars on the north side of Durant ave. between College ave. and Bowditch st. are now being taken out. They must be forty years old. — Apr. 30, 29.

See p. 52.

— John P. Harrington, Bureau of Ethnology, Smithsonian Institution, called Sept. 14. He is working on the identity of the native plants used by native tribes as "potatoes", etc. Says he has collected in upper San Joaquin Valley, Ft. Tejon, back of Santa Barbara, Santa Ines, Jolon, — cont. p. 174. —

Berkeley to Tulare

— For some time Mrs. Susana Bixby Bryant has been urging me to visit the new enterprise which she is undertaking, the Rancho Santa Ana Botanic Garden near Anaheim in Orange County. She is quite ready to wire her agent in the Palace Hotel, San Francisco, to place railway transportation at my disposal; but inasmuch as my object is to remain quite independent while helping her in any way that I can, I determined to drive to Southern California in my own car. This is a pleasant journey in the spring or summer, but at this time of year I contemplated the trip with

many misgivings. It has been bitter cold for weeks even here in Berkeley and is always colder in the San Joaquin Valley; I could not well afford the time (a minimum of five days), particularly as I had already given a great deal of time to Mrs Bryant's problems; but she asks for an inspection not later than the middle of January, so I determine to go.

I start at 9:00 o'clock, go through the Livermore Valley (which is ominously cold) and over Altamont Pass to Tracy. I see the tule fog filling the San Joaquin Valley, thrust down, this fog, like a wedge from the Sacramento Valley, the point tapering out just now

at Visalia. It is bitter cold; the cold striking through one like frozen daggers. It is a long and a merciless drive. At intervals of about 125 miles I stop to refuel the car and take on water. Thoroughly chilled through I stop for the night at Tulare where there is a new and comfortable Hotel Tulare. My room is heated and I thaw out gradually and go to bed early. I remain in bed fourteen hours, my muscles, my organs so rasped and jaded by the extreme cold that sleep only comes the latter part of the night. Since I do not waken until 8:30 my start is fairly late. The car is behaving well enough and I go on south towards Bakersfield, the snowy summits of the Great Western Divide (Kaweah and Kings River region peaks) making a fine showing in spite of the murky air. The intense cold holds, I reach Bakersfield, and go on towards Grapevine Canon and Tejon Pass; thence up the Ridge Route road and into Pasadena where I stop with the Pirsons. A wire is sent to Mrs. Bryant saying I shall be at the Rancho Santa Wednesday morning at ten. Next morning I am there at ten. Mr. Howell comes out to meet me and says that my arrival was broadcasted to the ranch from Los Angeles the night before. Soon Mrs.

Bryant arrives. [I learn later that in accordance with her convenience she had planned that I be at the ranch tomorrow and the two days following! But my method of handling matters, forestalled that. She had insisted on my coming, so I proposed that she be at my disposal.]

From the ranch office on the river bench I walked with Howell and the ranch superintendent, Mr. Johnson, up the sharp slope through the newly planted cactus garden to the new "administration building" which sits on the flattish summit of a hill about four hundred feet above the river bench. It is a large

and fine-looking building with a tower, all in the Californian mission style. The walls are about 4½ feet thick, of adobe brick made by the Mexican workmen on the place. The "living room" has a high vaulted ceiling and is very impressive with its large windows — those looking toward the east framing Mt. San Jacinto through the Santa Ana Canon on a fine day, those toward the west giving view toward the ocean. One can see for the Santa Ana River winding through its narrow canon bottom.

During her life-time Mrs. Bryant will use this building as a residence for her family. After her death it is to be used

as the main garden building and has been designed with that purpose in view. The herbarium room is on the first floor to the right of the main entrance. Her herbarium cases are modeled, she says, after those at Stanford, rather low units, sheet metal cases, lined with cedar shelving. There are, perhaps, twenty of these cases fairly well filled with mounted specimens - all California native plants.

We entered her car and Mr. Johnson drove up the steep slopes of the hills which rise from the river bottoms and are deeply and steeply gullied by small cañons. On the slope of one of these cañons near the head of it

are now being planted Monterey Cypress, Monterey Pine and similar conifers that may be expected to do well here. These hills are extremely arid and no more unpromising locality for a botanic garden could have been selected, it is one's thought, along the California coast from Orange Co. to Del Norte County. However, one can, in any part of arid California do well if water is to be had. A water system is being installed which will permit a considerable area to be irrigated. A large reservoir is now being built near the top of the garden area; a web of pipes is being laid on contour lines about 100 feet apart. So much for that.

After luncheon in a very

impressive dining room we drove to Aliso Canon. This is a fairly large side canon from the Santa Ana River with a valley in it and considerable good soil. Willows and Sycamores grow along the water course. This would have been a much more ideal spot for the Botanic Garden, but Mrs. Bryant plans to put all this area into almonds, a two-year old experimental plot of about twenty acres being called to my attention. We drive or rather climb, mostly without roads, to the summit of these hills for the view.

After luncheon Mrs. Bryant shows me, too, about the new house. It is very spacious and has a certain air of grandeur as well as dignity.

First are the bedrooms for her own family in the main building, these rooms flanking a corridor opening off the living room or main hall, as it were better called. These rooms are furnished in accordance with the taste of a very wealthy person. We also go up to the second floor where there are guest rooms; and into the wings which house the service quarters, kitchens and living quarters for the servants. And still further along in an angle of this service wing I am shown a set of bedrooms, tastefully but simply furnished, rather small rooms, which says Mrs. Bryant are for the accommodation of visiting

botanists, the rooms being in a way independent of the rest of the house and accessible by a separate entrance. [The difference between the grandeur of the bedrooms reserved for her own guests in the portion of the house occupied by her own family, and these very simple quarters naturally impressed me. The inspection trip was a bit hurried but I think the bedsteads in the botanists' quarters were plain iron ones.]

Next we went to the nursery. All the stock here on view has been grown from seed, mostly collected by Mrs. Bryant's own collectors. Stark is the nurseryman and displays

a fine lot of seedlings, clean and thrifty. Of Arctostaphylos in one plot he says he got ninety percent germination. He calls this A. canescens (San Diego). He has a lot of Photinia arbutifolia, Calycanthus occidentalis, Prunus f , Holacantha emoryi, Fouquieria arborea and other desert and arid region shrubs. All this stock is to be planted this winter - right away.

During the course of these goings-about Mrs. Bryant told of incidents in connection with the ranch work - good stories of how this man or that man got ahead of her. This was always done in the presence of the man concerned, with a

lively flow of spirits and good humor. I noted however that the outcome was always to the advantage of the ranch. She talks with her men in a very comradely way and has, I think, as she claims, their undoubted loyalty. But she knows thoroughly how much work each one can do; she learned, before taking on the job, how much land two horses can plow in a day and posted herself thoroughly on every other phase of the ranch work. I am sure she gets a dollar's worth of work or more for every dollar expended.

As usual she told me of certain intimate or at least

every-day happenings of her family life. She also told about Ernest Brunton, whose manner she dislikes as much, coming down to the Ranchos Santa Ana and applying for the job of Director of the Garden. This story was recited in much detail. She asked me if I knew Brunton? [This question threw not a little light on the weight given in her mind to the time and work I have given her problems.] I replied quietly that I had recommended Mr. Brunton to her for the work of landscaping the garden. She replied: Oh, so you did, and ran right on. She also had the assurance to ask me if Mr. Howell, on the occasion of his visit to

Berkeley at Christmas had made any recommendations about the garden. The impropriety of this question did not dawn upon her for reasons which I shall point out in a moment. I said that I was mostly away at the time of his visit and saw him only for a short time after the meeting of the California Botanical Society when we talked about the publication of his thesis. Mrs. Bryant's question may be laid to naivete, but which is the only in the sense that it is born, not of rustic simplicity, but of ingrained sense of wealth and class privilege. She sees Mr. Howell every day that she is at the Rancho Santa Ana! Well I checkmated

her effectively. It would not have done to reply simply that he made no statements about the work at the Rancho Santa Ana; I told definitely what he said about his thesis.

So passed the day. It was about sunset when Mrs. Bryant asked to ride with me in my car back to her home in Los Angeles. This ride was mainly after dark, on roads crowded with motors, crossed by roads jammed with traffic, but I made fair time until getting into Los Angeles when it became a hazard to drive, every moment of the time. However we reached her home, 3210 West Adams st., without accident or collision. All the long drive in she talked continuously. She told of her deed of trust for the garden, executed

before going on the Mediterranean tour a year ago: the garden left to three trustees, Mr. Allen Chickering, Mr. Ed. Howard, her son Ernest. The first an attorney-at-law, a girlhood friend; the second a rough but honest nurseryman in Los Angeles. There three to choose two others. She stipulates that young men shall be chosen as far as possible. I asked her what safeguards she had made that the garden would be a scientific garden, a scientific asset to California contributing by its research, its scientific results to the higher welfare of California; that it would be a real research

place and not degenerate into a show place or amusement-place. This was the chance I had been waiting for. She was much impressed by the possibility that it might be diverted from its intention and for once I got beneath her skin a bit.

She brought up again the matter of Director and said Professor McMurin of Mills College had wanted to come down for $6000 a year, with the privilege of a house for his family, and control of the scientific budget. She thought this sum altogether too much and said she meant to be Director for the present and that in no case would she give a

a Director money to spend as he wished. She did not refer to the fact that she had looked up McKinnin, not the her. She also spoke of the presumption of Baciagalupi (Rinio) in laying down conditions on which he would come to the Rancho Santa Ana.

I told her that she was not ready for a scientific Director, that she did not yet know enough about the purposes of botanical science. It was noticeable, however, that when she repeated this statement to Dr. Bryant she expressed it in a form which was rather different from what I said; in a form more

favorable to her own point of view.

Mrs. Bryant treated me with marked courtesy during the entire day. When we arrived at her home I was introduced to Dr. Bryant whom I had never met. I then went upstairs to a guest room, dressed for dinner and came down to the drawing room. Dr. Bryant was seated in front of the fire, reading a newspaper He remained seated and continued to read. At last he raised his head a word or two. His tone was midway between bullying and hectoring. I answered his remarks quietly but straightly. Did he think he could intimidate me? Perhaps on account of his wealth

and the autocratic habits of a physician he is more or less rude to everyone. Cont. p. 42. After dinner I spent an hour with Mrs. Bryant discussing the problems of her botanical library. At 9 o'clock I took my leave. On my leave Dr. Bryant was much more decent than on my arrival. I drove back to Pasadena to the Peirsons. (See p. 47).

The next morning Mr. Peirson gave me a nice lot of herbarium specimens and I started for Berkeley. The way was very pleasant into the Tejon Pass. Where the Ridge Road drops down on the north slope of the Liebre Mountains I stop to

collect a pine:

No. 15,096. Pinus sabiniana Dougl. It is perhaps not quite typical; and is the only station where this species is found north, south or east, of the bowl of the Great Valley outside. This is the tree spoken of to me by Howell. He called it P. coulteri and said Professor Lorge Hiller regarded it as a hybrid between P. coulteri and P. sabiniana. The cones, while small, are of the Sabiniana type. While the umbos at base are often prolonged into prominent talons, so are they sometimes in P. sabiniana cones grown in real P. sabiniana territory. The seeds have short wings and quite like those of P. sabiniana. The

branchlets are long, pendulous and very slender like those of P. sabiniana and not at all like those of P. coulteri. The trunk branches like P. sabiniana and not a single trunk like P. coulteri. The branching does is, however, rather close and not open as usually in P. sabiniana. The color of the crown is not as blue as in P. sabiniana. [Cont. p. 42.]

Over Tejon Pass, going north, I turn off onto the Frazier Mountain road fifty yards to eat my lunch. It is sunny and warm, the air quiet and a stillness over all the scene. What a change I was soon to experience. Driving back on the highway I was soon out of Grapevine Cañon onto the plain of the San Joaquin Valley, and the cold began. The tule fog, said a man

at a service station not far from Wheeler Ridge, blows down to us out of the Sacramento Valley. The fog fills the valley and I hurry on, stopping only to refuel, pass Bakersfield, a long long drive to Tulare where I stop again at the Hotel Tulare. The next morning I get a fairly early start. The fog is thick and very low; it is appallingly cold although my clothing is better adjusted to preserve the bodily warmth. The dangers of collision on the road are very great. An oncoming vehicle, its lights showing through the misty vapors, seems very far away. So that if one tries to pass a vehicle one is in serious danger of mis-judging clearance of oncoming motors. It seems

to grow darker as one travels down the valley, the fog evidently denser and thicker. Then one comes to lighter spots where the fog seems higher and there is a faint glow as if a little sunshine were somewhere above. The day wears on and I keep going, traveling mostly 30 to 45 miles per hour. I plan to cut west across the valley by a flat asphalt road turning off at Califa. It seems as if this road station would never come. The road across the valley west is little traveled and on it I make excellent time, though I am badly chilled. The fog closes down all around, as if blotting out all the rest

of the world, as if the world were a sort of nothingness which moves along with you. Everything is dim through the fog or seen in exaggerated outline. A little ahead is an enormous mass of billows of black smoke rushing from the earth as if a crater were erupting; but the awful spectacle, as the car draws nearer, dissolves into a great grove of Eucalyptus trees.

All this while the low fog keeps the roadway not merely wet but greasy and slippery. In attempting to pass a slow vehicle I misjudge badly an oncoming truck and for safety I drop back behind the vehicle in question. In so doing I apply brakes, skid all over the road,

and bring up at the extreme right hand off the road. This makes me duly cautious.

I near the west side of the valley, come suddenly on the railroad track where the wig-wag is going. I apply my brakes rather suddenly, skid all over the place as if on ice, describe a figure 8; by some miracle refrain from going into a great canal on either hand and end up headed in the opposite direction from that which I am traveling.

Tulare, where I stopped last night, is a thriving little city with some six or seven closely packed city blocks. These "cities" large and small, of the San Joaquin plain were, a few years

ago, when I traveled about with camp-wagon and horses, mere hamlets- a blacksmith shop, a general store, a meat shop, a barber shop. Now they have all the airs of a metropolis; their shops are up-to-date and with plate-glass windows across the entire front. The town library is a brick building well-stocked with general literature and all the latest magazines - perhaps 60 or 70 of them in Tulare's library.

I stop in Tracy to eat in a restaurant. I come out. My body is a little less chilled than when I went in. I go on, travel Altamont Pass and am soon in sunshine, warm sunshine in the Livermore Valley! It seems as if it had been ages since I saw sunshine, so

long have I been cold. I reach Berkeley and go early to bed.

During the ride into Los Angeles Mrs. Bryant stated rather clearly the kind of work she has in mind for the garden to do: To introduce valuable native plants into ornamental cultivation; to help out in the problem of valuable native forage plants; to bring together groups of native species so that students or investigators can come and study them. She stated two other objects which are equally sound, but in the roar of traffic, the welter of blinding lights on the road, the constant danger from the press of reckless drivers and trucks — I did not, was not able, to follow her argument about the garden very closely and I wonder now that I remember even so much of it.

She told me a story of her school-days when she was at Miss Head's school in Berkeley. There were two girls who were Miss Head's favorites; they learned lessons from books perfectly. Susanna Bixby thought them stupid and really having no brains. Mrs. Bryant met Miss Head at some resort in the northern Sierras this last summer. Miss Head greeted her most warmly and with full remembrance as one of her old girls. In the course of the day Mrs. Bryant had a chance to turn the table good-naturedly on Miss Head by reminding her of her old-time favorites, the stupid girls never heard of afterward.

Mrs. Bryant plainly represents that portion of the ultra-smart public that want to depreciate

hard study by citing those exceptional instances where the dull memorizer or "dig" does get high grades in school. [Cont. from p. 32, near top. Mrs. Bryant came into the drawing room when she put to him some good-natured question or remark concerning the success of her botanic garden. He replied tersely and rather roughly: "Well, you can make a success of it if any one can! You are determined. You are persistent. You are a regular leech!" Did Dr. Bryant mean to inform me in this way that I was being imposed upon?].

– Cont. from p. 34. In Castac Valley I collected on the dry flats the following lethality states. Jan. 10, 1929.

No. 15.097. Chrysothamnus nauseosus var. graphalodes (Greene) Hall

No. 15.098. Eriogonum roseum

No. 15.099. Eriogonum viridescens

– L. S. Smith of U. S. Forest Service called today and I took him to luncheon. He says: "I made herbarium specimens of a Ribes growing in Blackwood Canon, 3 miles south of Tahoe Tavern on the west shore of the Lake. Two sets of sheets from the same bush, one of flowers and one of fruits. The sheets were sent to F. V. Coville at Washington who named them as different species; this I could not understand and so this last summer I visited the bush again, a black currant, and once more made specimens which I have sent on again. My object in the second visit was to make sure that the specimens had not been taken from different intermixed bushes. Specimens have gone

once more to Coville, but this last sending has not been heard from.

Eccleston (W.W.) is a good worker. In the field, though so stout, he travels uphill quite as fast as I want to go. I spent two weeks in the field last summer collecting Lupine seed for experiments with animals in regard to their toxicity. We did not get sufficient seed, because the racemes dried up before the seed was fully formed. [cf. vol. 47, p. 463]

I am not able to apply Clements' Plant Succession to the field. It doesn't fit nor mean anything. Eccleston made the rather broad statement that Clements doesn't know plants!" The language above is

in some sentences my own, but the spirit and intent of Smith's remarks are well rendered and conservatively given. — Jan. 19, 1929.

— L. S. Smith is mixed up by the determinations he receives from Washington and especially as regards the nomenclatorial reversals. Ivar Tidestrom does most of the determining for the Forest Service under the overlordship of Coville in the Bureau of Plant Industry. — Jan. 19, 1929.

— L. S. Smith also told about the new range menace Aegilops triuncialis, Goat Grass, in the foothills below Placerville; taking completely fields that formerly were good pasture and rendering them useless. No stock of any kind, he says, will touch the plant. The fruits are especially well

adapted for inimical invasion and spread, germinating as they do when lying on the surface of the ground. It is, says Smith, a perfectly terrible thing. — Specimens are sent me by L. S. Smith and F. P. Cronemiller. — Jan. 19. 1929.

— In a letter from Fred P. Rowland, Hort. Com. Fresno Co., 1-23-29, the slough cited by Graves as Four-mile Slough is called Four Tree Slough. Rowland is much more likely to have authentic facts than Geo. W. Graves. cf. F. B. vol. 47, p. 493 (Aug. 18, 1928).

— Trask, J. B., early member of Cal. Acad. Sci. See Pamphlets on Cal. Biography in U. C. Library.

— Menzies, A. His patron, Sir Joseph Banks, had dedicated to him

by Capt. Dixon "Voyage about the world, principally on the Northwest Coast of America by Captains Portlock and Dixon".

— Eucalyptus globulus. Hilgard Grove. Berkeley Campus. 7 trees cut in 1928* = 44 years old at 2 ft. — U. S. Foresters News. * or early in 1929.

— The weather has been so cold in S. Cal. that the orchardists have been firing their smudge pots freely. The black soot so fills the air as to be disagreeable to the inhabitants; even riding in an automobile the passengers become unpleasantly grimed. I have this from the Peirsons (see p. 32).

— W. E. Ritter has been querying me in relation to his work on acorns and woodpeckers. He makes the guess that California is half-oak-covered; which it isn't.

not even one-fourth. Acorns are an article of barter for sheep feed and turkey feed in the northern Sierra foothills he says.

– At the annual dinner meeting* of the California Botanical Society, W. J. Hutchinson, in charge of Public Relations, U.S. Forest Service, responded to a toast at the evening session and explained how nearly he missed being a botanist. During the Spanish War he was in the Philippines in a regiment. The duties took the regiment about the archipelago. E. D. Merrill, who was then in the Bureau of Science, asked the Colonel of the Regiment to have his men collect specimens of plants. The order was given out and a

* Feb. 23, 1929.

certain amount of perfunctory collecting was done. In this material Merrill found a new species and named it after the colonel. The colonel, thereupon, issued decisive orders that the collecting be pushed with the utmost assiduity!! – This regiment was probably a forestry one – but I did not catch this point.

Dr. Herman Knoche remarks to me this distichy that Baccharis pilularis DC is a native in California, insisting that its entire behavior is that of an immigrant. This challenge had never been presented to my mind before – since I had always thought of it as indigenous. It is a pioneer on the hills and is

succeeded by species of the soft chaparral; finally we find its dead stems on north slopes in the cañon.

It is, to be sure, found in broken ground, sometimes and thus behaving like an alien, but we have other undoubted native plants that behave similarly. Its defeat by its successive species indicates an indigenous species. Stipa as successful as it in gaining ground hold it against competitors. – Feb. 24, 1929.

– Then came to call E. E. Stanford, Professor of Botany in the Pacific College, Stockton, about mid-January. He is a Ph.D., Harvard 1924, about 41 years old with a heavy

shock of iron-grey hair and defined but prominent features. He is taking up Polygonum; has already borrowed Polygonum material from the Baker Herbarium, Pomona College. It is my thought that this visit was noted at the time but I do not now find it. – 2-23-1929.

– Frederick Funston, botanical collector on the Death Valley Expedition, a "poor stick" because a political appointee and caring nothing about botany, found himself later. My friend, Colonel John T. Nance, of the United States Army says that in the army he was an able man, capable of making prompt decisions and standing by them; that popular disapproval held no

terror for him; and that he did not propose to travel through life by handing out praise where it was not due. — Feb. 22, 1929.

— Street trees. The street trees in Berkeley, the old historic part of Berkeley, are being slaughtered. The fine old Carolina Poplars on Dwight Way just above Bowditch are being taken out entirely on the south side; the great Cork Elms on Dwight Way above Telegraph and to Warring have been fearfully mutilated by the corporations controlling wires, and also by the city, some trees being taken out; the city parks department, wishing to keep men employed, have mutilated the trees everywhere in a fearful degree, formalizing

them to an extreme by topping. Perhaps in no town in California is there less regard for trees than in Berkeley. See p. 11 ante.

Our interior towns, as well as others, are very ugly, especially in the closely packed business quarter. Trees would cover up this ugliness or soften it; but no little shopkeeper in all California will permit a tree in front of his shop, because he thinks his sign and shop are hid from customers. Everything in our blessed land goes back to worship of the dollar. — Feb. 26, 1929.

At the dinner meeting of the California Botanical Society on Feb. 23 the after-dinner program was favored with a song by Robt. E. Sayre accompanied by W. W. Carruth, musician-laureate of

the Society. In talking he stammers. Just before beginning to sing he said: I stammer. Once a man asked me if I stammered all the while. I said: "No, only when I am talking!" Then he began to sing. The natural impediment has no effect when he sings! He sang fully, strongly, to great applause. He told me afterward that Dr. A. W. Saxe of Santa Clara, whose name is included in Kelly's Biographies of Medical Botanists is his uncle. He is also a close relative of the poet, John G. Saxe. — He himself has a rock-garden at his home in San Francisco, 24 ft.

square, with alpines in it. I think he may have said 175 species — Feb. 28, 1929.

— Professor Rogers of the Montezuma School, above Las Gatos, once called upon President B. I. Wheeler, to tell him about the original character of his school. Wheeler with his characteristic arrogance said: "You have used the word "new". That is enough. If there is anything new in your plan I am opposed to it." Rogers made a note of the interview at once in his journal. This story from Mrs. C. D. Howard, my secretary, who was for eight years connected with the school. — Mar. 1, 1929.

— C. F. Baker. See Jepson Corr. 22:84.

— It appears that Thos. Howell, author of the Flora of Northwest America, was painfully illiterate. But he went to school only three months in his life! It is not unfitting to consider our college graduates and all their advantages, most of whose cannot spell. Mrs. Howard, my secretary tells me that she heard a brief speech recently by the president of the Sacramento Junior College and that he made (from grade common errors in grammar. — Feb. 28,

— Calif. Botanical Collectors: J. T. Rothrock, — see H. A. Kelly, Am. Medical Botanists, p. 203. Also C. C. Parry, l.c. p. 180. Also A. W. Herre, Foliaceous and Fruti-

cose Lichens of the Santa Cruz Peninsula in Wash. Acad. Sci. 1906. See also Bibliography, p. 494, in G. W. James, Heroes of California.

— Howell, Thos. J. In the Botanical Gazette (55:458, — 1913), a brief article and a good photograph says A. R. Sweetser, Univ. of Oregon (in litt. 1-11-29). He is by Smith, Sherwood H. who says: (born Oct. 9, 1842. Married when 54. Wife and a son of 7 survive him. Second edition of his work he got out a few years before he died. It was arranged according to the Engler & Prantle sequence. Made a living by keeping a small grocery store; also made mittens on a sewing machine to sell at 7c. a pair! to teamsters.

There is no question now, that in my mind

Howell was amazingly illiterate. He wrote very short letters — which may be an advantage, illiteracy since letters are always used against one sooner or later. Still with all his illiteracy he managed to get along and do a rather big thing. Even our college graduates, though some of them are astonishingly illiterate, do usually manage somehow.

— Bridges, Thos. See H.A. Greene in litt. 7-6-'29.

— The explosion point has been reached at the Rancho Santa Ana Botanic Garden. In answer to a letter from Mrs. Bryant I sent her a letter, a statesman-like letter, explaining to her that she could run a Garden herself but not a Scientific Garden unless she had a Scientific Director. I presume I was incensed down beneath, not merely at her arrogance, but at her way of capitalizing Botany tho' showing no respect for Botanists as such. She instantly got a prestige from having a "Botanic" Garden that she would not have received under any other name. And she tried to substitute me (and perhaps others) for a Director. My letter was calm and sound — but it infuriated her. Meanwhile John Thornber's Howell wrote me a letter complaining bitterly of his treatment at the Rancho Santa Ana. His letter crossed mine to Mrs. Bryant. Mrs. Bryant, more than

shrewd, acutely penetrating with the lashing thought of her anger urging her on, went immediately from Los Angeles to the Rancho Santa Ana and demanded to see the copy of the letter which Howell had written*! That sounds almost like a De Medici!! Howell, the inexperienced youth, had no more wit than to give it to her! He should not have kept a copy of so dangerous a letter or, keeping it, he should have sent it away for safe keeping. Or else he should have boldly refused to deliver up a private letter. She had no right, human as divine, to demand it, of course. It merely meant that she meant to have her own

* But see p. 62, at bottom.

high-handed way in this as in everything else. See p. 42 ante. See {vol. 46, p. 167 also. vol. 46, p. 150.} So far as Howell is concerned, of course Mrs. Bryant was quite within her rights in discharging him for disloyalty but she knew that he was sorely disgruntled before the climax, since she had previously written me a very taut letter about him*. - Mar. 9, '29.

- Howell, Thos. J. The only portrait taken of him is that by Huron H. Smith, shortly before Howell's death. We, all of us interested in Pacific Coast phanerogamic botany, are indebted to Huron Smith for the wise use he made of his opportunity in Portland. cf. Bot. Gaz. 55:458 (1913). See letter of H. H. Smith, Jepson Coer. 1929.

* Cont. p. 106 dey.

— Francheschi, Dr. F., . Experimented with native wattle-while ornamentals, such as Lysonothamnus, and introduced them into cultivation. In the Jour. of Heredity, 13: 215 he is written up and his work described in some detail, by Wilson Popenoe who uses the name Dr. E. O. Fenzi with only a slight reference to the name Francheschi under which Francheschi did his work at Santa Barbara and published his catalogs.

In an excellent sense he may be called a Cal. Bot. Explorer since he introduced natives into cultivation and studied their culture.

— Cont. from p. 60*. I now learn from Tom Howell** that the bitter letter of complaint which he against Mrs. B

** calls in person.

wrote me was in reality a continuation of one letter, namely a letter which Mrs. Bryant had directed him to write me in the way of making inquiry as to the procedure with certain cultures. Of course Mrs. Bryant had a right to see this letter and Howell handed it over!! Of course I knew that there "two," when received by me, were all one letter, but the matter had gone from my mind. It would have been choice to watch Mrs. B. as she read this truly unvarnished unhypocritical account of herself!! How any one could have tacked his own private letter onto a letter written in behalf of his employer may only be understood by considering Howell's youth and inexperience. — Apr. 12, 1929. — Cont. p. 190 seq.

√No. 15,100. Myosurus

In vernal pool bd, about 4 mi. e. of San Joaquin River bridge on Los Banos–Califa road. (now waterless,) Stamens 8, 7, Sepals 5, their bases projected downward into white-scarious linear-lanceolate plane "spurs". The stamens are really 5, mostly alternate with the sepals, with 3 or 4 alternating "petals", these linear with lanceolate-dilated tips, same length as the stamens, some wholly petaloid, some bearing at the lanceolate tip obscure vestigies of anthers.

The "spurs" are about 2/5 length of main or erect sepal portion. In another flower = 1/4 length sepal. Another flower shows 5 stamens with anthers, 3 staminodia with markedly sterilized vestigial apices. Still another flower with

5 stamens and 3 staminodia.

— From Califa I go southerly on the main road to (Los Banos via) Madera where I turn off it east to Friant on the long east-west road (cf. ante 47:361). In this region I have a fine view of the Merced group of snowy peaks. From Friant I drive easterly about 7 mi. to Rattlesnake Gulch, ranch of Dumford Thornton, the sheep man (cf. ante 47:444). Thornton has a small house or cabin for living quarters, strictly of the pioneer type. I stop with him two days, and botanize the surrounding country.

Says Thornton:
— Friant was first called Jones' Ferry (in early days). Next it was called Hamptonville (I find this name on a map of Fresno Co. in U.C. Library of date about 1862). Next Pollaski. Next Friant. Friant after Friant Lumber Co. Stewart Edward White belongs to this White family.

– Dunford Thornton says that the herbage of Echinocystis horrida taints the milk of cows so "one can scarcely drink it" (that). Squirrels utilize the seeds.

– Pincushion Mt. is the name of a foothill peak between here and Friant with a round button of lava on the top of it.

– Quercus wislizenii is in full flower at foot of Rattlesnake Gulch. Quercus Douglasii is distinctly behind it, just bursting into leaf with the crown silhouette of branches still marked. What a thrilling sight to see! The tender bursting yellow green of the Blue Oak – the most marked symbol of the spring in the foothills.

– Dunford Thornton calls Physanocarpus curvipes Hook. (Jepson no. 15, 124) by the name of Crab Grass. He described the plant to me by comparing its form (inflorescence) to that of Shepherd's Purse which he picked up from under foot. I could not guess it, at first. He compared the pods to crabs and said they were "kind of dangly in the wind". Thereupon I showed him my sheet of Physanocarpus and he at once recognized it.

– Ceanothus cuneatus Nutt. Now in full bloom on the hills. The round-headed shrubs are a great sight and load the air with a sweet and somewhat cloying fragrance. The bees are now busy on the flowers – mostly wild bees here.

– The great bowl in the hills just above Dunford Thornton's ranch is Sentinel Valley. His home is in Rattlesnake Gulch, an old mining gulch where gold can still be panned placer around the house.

I suspect, on cross-examining Thornton, that this name Sentinel Valley, really belongs further up towards Toll House.

– Magpies. Thornton says these birds have disappeared from this region during the last 15 years.

– Erodium Botrys Bertol. This species appears to have replaced E. cicutarium all through the foothills of this region and lower on the rolling plain bordering them.

– The Turtle Doves hereabout begin to mourn at dawn.

No. 15,101. Plagiobothrys fulvus Stn. var. campestris Stn.

Calyx black with ascending black hairs. Corolla eye yellow, the yellow caused by five much reduced mounds (glandular), forming a semi-obsolete crown. Corollas small, calyces large.

No. 15,102. Plagiobothrys nothofulvus Gray. Calyx small, contracted above middle. Corolla large, the throat closed by a distinct crown, each crest of the crown notched at apex; alternate with each crest is a narrow ridge or line running out corolla limb to join sinus. The calyx is plainly of the circumscissile type.

– No. 15,103 Amsinckia (same as 15,136).

In the wheat fields of the San Joaquin Valley, says Thornton, in threshing time the fine bristles of the inflorescence get in the eyes of the threshers and cause much pain.

— Dumford Thornton is showing me a photograph of a 14-mule team hitched to a couple of freight wagons and in response to my query as to how such a long outfit could get around the curves on a mountain road he said: "There are the wheel pair of horses. The driver rides the left hand horse: The next pair of mules are attached to the end of the wagon tongue; the next two pair are attached to the pull chain which runs through to the lead pair. This pull chain is attached by a swivel joint to the stiff iron rod which is attached to the front axle and is as long as the tongue but has a certain

amount of play right and left. The team is driven by a jerk line and when you come to a curve to right you throw that line to the left over the mules and yell Gee and the three pair of mules that are called pointers or pointer pairs step over the chain and pull right while the leaders slack in their pulling and simply move around the curve. The lead mules have learned to do this and know the signal and respond to it instantly. On the left curve it is just the opposite, the jerk line being thrown the other way.

Mules are like people, they differ as individuals [or rather like intelligent people the qualities

somewhat quickly. A well-trained team knows at once whether the driver knows his job. They respond to a real driver, but a mule knows instantly a poor driver. Something happens, a wheel bumps over a rock, and the mules are instantly alert. They look around and get nervous. Something else happens; then again. The driver blames the mules but the mules know it is not their fault. The driver begins to swear at them and lambast the pointer pairs within reach and pretty soon he has an unmanageable team that won't pull in a crisis on a stiff grade.

Heavy grades, stiff rises, make trouble. Starting the load in the morning may be serious. There is a way of loosening the joint in the connection between the front wagon and the trailer so that in starting the team has only to move the front wagon and the other will come along with a jerk. The mules know all about this. If I go back and loosen this connection into a slack they will move ahead in unison. Sometimes the joint is stiff or strained taut so that it cannot be loosened. But if I go back and hammer on it and then give the mules the word, they will think I have loosened, and move ahead in perfect unison.

I used to drive mule freighting for other men. We drivers got $2.50 a day and our board. It was a hard life, freighting from Fresno into the mountains but there was a fascination about it and as soon as the roads opened up in the spring, about April 1, and I saw the first wagon going towards the mountains I was crazy to join them. Then after a while I got my own team and wagons, as fine a lot of mules as ever wore collar. Of course you have to break in your pointers to begin with. You take a raw mule and on the corner you hit him an awful lambast on the left side with a

heavy rope on the end of a hazel rod and yell "Gee!". He naturally wants to get away from the side where the blows are falling (being as I say a highly intelligent mechanism) and he steps over the chain to get out of the way of the blows. After a while he understands what the lead line means when it is flapped from one side to the other and when that signal comes the pointers step over. When a near pointer is trained he is moved ahead into the next span, because of course the driver can reach only those in the span just ahead of the wheel span. The riding mule has a saddle for the driver. A line runs from the handle of the brake to the saddle horn, being there attached by a buckskin string so

that in case of undue strain it would break. A similar line runs to the brake handles of the trailer. The driver manipulates both brakes with one hand.

If I have a mule that is undependable and turning around to look I treat him this way. I do not beat him up in the team because that excites the whole team. But I choose a place where I know I can start the load and set my brakes a bit lightly. Then I give him the word, once or twice, and if he doesn't behave I take him out of the span and put behind the wagons and make him think hell is only five minutes away. When I put him back and give the word

again he moves off with the fear of God in his heart.

There was a lot of teaming on the road in the old days; between 200 and 300 teams freighting into the mountains over this one road, hauling store supplies, hay and barley into the mountains, machinery and equipment of all kinds, and freighting lumber out.

The best wagons were those made by Hilton in Fresno, an expert wagon maker. Nothing ever went wrong with his wagons.

In those days when Thornton was teaming there was not, he says, a single bridge between Fresno and Tollhouse. You had to pull down into and up out of the bed of every

Rattlesnake Gulch, e. of Friant,

watercourse.

The iron pole beneath the wagon tongue proper is called the pull rod. To the end of this by a toggle joint is attached the "fifth chain" which runs clear through to the leaders. The first pair of animals, next the wagon, the wheeler span, are always horses! The next pair are the tongue pointers; this span is attached to the end of the tongue. The next two pair have their wagon stretchers attached to the fifth chain: they are chain pointers. This makes six pointer mules. The successive spans are line spans. Finally there are the leaders, guided by a jerkline. There is a stay-chain on the double tree which stay chain applies to. (Cont. p. 82)

Fresno Co., March 27, 1929.

- I asked Dunford Thornton about the power of flight in turkeys. He pointed to a hill west of his cabin about 150 feet high (above the cabin) and 1/8 mile distant. He said turkeys had been stampeded off the summit and had flown nearly to the cabin, perhaps better say sailed in part.

- The "snow-drops" show is now fully on. This is Plagiobothrys nothofulvus Bth., no. 15,145. From the summit of Table Mt I see it all over the rolling valley lying under the mts southward, the ribbons and patches of it extending out over the thinly wooded hills everywhere. Thornton says of it is good stock feed. Sheep like it, especially when it is young

or coming into flowers. Filaree, 900 ft.
Pink Clover – are two other good
feeds. Later in the season, in
summer, we have the Spanish
Clover, which is good feed."
– Today I went up on Table Mt.
in the morning. It is a highly
interesting area to botanize. The
top is a rocky flat pavement
with very little soil. The
annuals flourish on some parts
of it and make a show such as
I see not elsewhere this trip.
No. 15.111 (Baeria) makes
sheets of color that are very
fine here and there. One has a
good view of Pine Ridge, the gap
where lies Big Creek, and Cascada
Mountain. There is also an
exceptionally fine display of
the great snowy alps about the
headwaters of Kings River.

No. 15,104. Sanicula bipinnatifida Dougl.
Rocky places

No. 15,105. Trifolium
Moist, rich soil. Fls.
purple with white tips to the
petals. In a swale.

No. 15.106. Collinsia sparsiflora F. & M. var. collina, With 15,105 Fls. pink.

No. 15,107. Valerianella (Newsom.)
With 15,105.

No. 15,108. =Parvigedum Sedella engdonii
Britt. & Ros. Annual! Herbage a
dark red-brown or maroon.
Leaves clothing stem fairly
closely, nearly the size and
shape of small rice-grains.
The stamens are 10. The five carpels
are glabrous on the back but
on their sides they are furnished
with short translucent glands
standing perpendicularly, hair-like
but very very short. Petals

yellow or yellowish. Rocky flats
Cont. p. 92. Summit of Table Mt.

15,109. Sanicula tuberosa Torr.
Fls. yellow; tuber globose, rather large. With 15,105.

No. 15,110. Trifolium albopurpureum T. & G. Loamy spots on summit.

No. 15,111. Baeria
Loamy spots on summit. see p. 80.

— Low round hillocks, 10 to 15 ft. diam., circular, 1/2 to 1 1/4 ft. high, characterize the summit of Table Mt., west end, where I examined it. The soil on these spots was good loam and the vegetation somewhat luxuriant as compared with that of the rocky pavement surrounding these low mounds. Some of the conspicuous species composing the vegetation were nos. 15,110; 15,111; 15,124.

No. 15,112. Lepidium nitidum Nutt.
Meadow-like spot.

No. 15,113. Layia fremontii (T. & G.) Gray
Rays yellow with white tips. Meadow-like spot near the "cross-row" of Buckeye trees.

No. 15,114. Lupinus albifrons Bth. Bushes 4 to 8 feet h., often with a distinct trunk. Noticed chiefly as forming colonies on the "talus" slope at the foot of the low "cliffs" at edge of table land. Cor. blue with a broad white spot in banner. Colonies very handsome, being now in full flower. Upper half of keel weakly ciliate

wings without obvious auricles or only broad rounded ones.

no. 15,115. Microseris acuminata
Heads nodding. On the rocky pavement in a soil pocket.

no. 15,116. Plagiobothrys tenellus Gray
With nos. 15,102, and 15,103. Grassy hill slopes below summit

no. 15,117. Orthocarpus erianthus Ben.
1200 ft. Dry hillside swale below summit of Table Mt.

no. 15,118 Trifolium variegatum Nutt. var. melanantherum → Greene.
With 15,117.

no. 15,119. Lepidium bipinnatifidum Desv. = L. pubescens Desv. = L. strictum (Wats.) Rattan
775 ft. Along beaten cattle path in the hills. Rattlesnake Gulch.

no. 15,120. Lupinus bicolor Lindl. var. microphyllus E. P. Sm.
All over the grassy hills, frequent, usually not

abundant.

no. 15,121. Eschscholtzia lobbii Greene
Moist swales, north slopes in the hills. 1000 ft.

no. 15,122. Arctostaphylos mariposa Dudley.
Common on the hills, now in 1/3 grown berry for the most part. 1000 ft.

no. 15,123. ~~Herrizonia~~ Hylocarpha heermannii
Fl. gone — Discarded — Dry hills. 1000 ft.

no. 15,124. Hysanocarpus curvipes Hook. var. elegans Rob.
Dry hills.
See p. 67 ante.

no. 15,125 Psilocarphus tenellus Nutt. var. tenuis (Eastw.) Crong.
This quadrifoliolate plant forms little ground colonies on north slopes.

no. 15,126. Lomatium utriculatum C. & R.
An individual remarkable for the number and size of its "bladders";

- see over -

Table Mt., Fresno Co., 1500 ft.

On summit, on rocky ground.

No. 15,127. Lupinus bicolor Lindl. var. microphyllus Sm. On summit:

No. 15,128. Lupinus ~~leptophyllus~~ ~~Beth.~~ L. benthami Heller. On extremely rocky ground, that is on the summit of talus at foot of "cliff". see below.

No. 15,129. Phacelia cicutaria Greene. With 15,128.

Cont. no. 15,128. The leaflets are mostly 9 or 10; they are stellately disposed horizontally from the summit of the petioles. Being narrow and trough-like, the leaves have, extended as they are, a "spidery" effect such as I know in no other Lupinus species. The leaflets are

Rattlesnake Gulch March 27, 1929 E. J. Briant. 900 ft.

spaced almost equally around the circle. Sometimes the gap is greater between the two leaflets at the morphological base of the leaf, sometimes the gap is greater elsewhere.

No. 15,130. Lotus strigosus Greene. Dry grassy hills, where the vegetation is a bit thin. Apparently uncommon but it is inconspicuous.

No. 15,131. Cordylanthus. Stems erect, paniculately branching, 4 ft. h. very erect, and somewhat strict. Dry hills. Last year's plants.

No. 15,132. Gilia tricolor Bth. Dry hills.

No. 15,133. Lotus humistratus Greene. Very common on the dry hills.

No. 15,134. Lomatium marginatum C. & R. Moister north slopes

c. 650 ft: see p. 101.

The top root is very deep-seated and perhaps I did not get all of the significant part.

— Mrs. L. A. R. Peckinpah. Thornton knew her. Says the Peckinpah family in those days never lived anywhere but in Madera Co. at or near Peckinpah Mill.

No. 15,134a. Nemophila menziesii H. & A. Cor. blue. Moist flats.

No. 15,135. Oenothera contorta Dougl. Sandy creek bottom.

No. 15.136. Ansinckia Eastwoodae McBr.

cf. 15,103. This large-flowered species forms marked and dense colonies ten to 30 feet across. The colonies are usually pure and consequently quite showy. In the direction in which I botanized this morning — over the low very openly wooded Quercus douglasii hills — these colonies were mostly, rather conspicuously, associated with the shadow of Blue Oak trees. The small-flowered form (no. 15,137) is of the open hills.

No. 15,137. Ansinckia ~~hallbergii~~ Menziesii Brand. The small flowered species on the open hills. Sometimes in colonies, often scattered.

No. 15,138. Ranunculus In bed of clear stream, the top of plants about 1½ feet below surface.

No. 15,139. Platystemon californicus Benth. Sandy flat.

No. 15,140. Nemophila pulchella Eastw. var. ? gracilis Constance. Usually about rocks

Sparkville, Fresno Co. See p. 101. c. 7500 ft.

or in oak shade.

No. 15,141. Tropidocarpum gracile Hook. Dry sandy flat. Cor. pale yellow.

No. 15,142. Erodium botrys Bertol. Very common on the hills, often forming 20 to 60 per cent of the "crown cover" so to speak, the vegetative effectiveness.

No. 15,143. Gilia tricolor Bth. Large colony near summit of bare hill, south slope, somewhat sterile.

No. 15,144. Lotus humistratus Greene. See p. 91. Very common in the low herbage on the open hills

No. 15,145. Plagiobothrys nothofulvus Gth. Very abundant over the low hills, forming broad colonies, stretching on for miles and miles. See p. 79.

No. 15,146. Plagiobothrys tenellus Gray. Dry open hills.

No. 15,147. Baeria Dry flats.

No. 15,148. Trifolium albopurpureum Grassy swale.

Cont. no. 15,144. This, according to Dunford Thornton, has become abundant in this county in the last four years. Undoubtedly it is native here but went unnoticed before. He says stock do not eat it which may account for its being relatively more abundant.

Chloragalum pomeridianum Is going out of this country says Dunford Thornton. He gives no reason for this, but he says he rarely sees a plant nowadays. Cattle do not eat it.

Indians no longer use the root as a detergent, though they did in the old days, mixing some other substance with it when washing, thinks Thornton,

-Cont. no. 15,108. Sedella. Ventral suture of carpels with rather long and somewhat capitate glands, translucent, hair-like, unequal. = S. pumila Britt. & Rose var. congdonii Jepson.

-Cont. from p. 78. the right wheel horse.

The jerk-line is thrown over to the left when the road curve runs to the right. The jerk-line, manipulated by the driver, runs along like a wave and the pointer mules on the left step right over the fifth chain in response

to the word from the driver and the "flow" of the jerk line. The pointers thus pull the wagon to the right and keep it in the road around the curve. All the line spans slack up and merely walk around the curve. The right wheeler pulls like anything, but the left wheeler lays off. This is in order to prevent the right wheel from becoming "frozen" or jammed under the wagon bed. If this happens, the wheel is weighted down by the heavy load of the wagon box and cannot be budged except through release by jack screws which is a laborious process and may take several hours.

Ordinarily the jerk line rests in the forks of the hames

The "near" mule is the left mule of a span, the "off" mule is the right mule.

The tongue mule doesn't step over chain unless it is a very short turn.

One can readily appreciate that driving a 16-mule outfit is a highly complicated mechanism, especially on mountain curves. Entering a curve the leaders and line spans stop pulling; the near mules or off pointer mules, as the case may be, step over the chain and pull like the devil; the wheel pair pulls and pulls hard. One mule only of a team is well-broken to the line, the whip can be thrown into the jockey box. Only highly intelligent animals could be trained to such work.

— I left Rattlesnake Gulch early

(cont. p. 100)

400 ft. Madera-North Fork rd. See p. 101.

5½ mi. w. of Little Pickle Mt. near Hildreth Creek.

No. 15,149. Baeria

Rays 5. Rocky sterile mound on rolling plain.

No. 15,150. Baeria

With 15,149 and apparently like it, but rays many.

No. 15,151. Trifolium amplectens T. & G. Grassy gravelly field.

No. 15,152. Microseris with 15,151.

No. 15,153. Bilocarpium brevissimum Nutt. This gnaphaloid grew on the margin of a vernal pool.

No. 15,154. Allocarya acanthocarpa Piper This boraginoid grew with 15,153.

No. 15,155. Callitriche marginata Torr. var. longipedunculata Jepson. Vernal pool, partly submerged, partly terrestrial, where water has disappeared.

* See bottom p. 96 infra.

Madera, 270 feet.

No. 15,156. Tropidocarpum gracile Hook. Wheat field.

No. 15,157. Orthocarpus purpurascens Bth. Wheat field.

No. 15,158. Collinsia bartsiaefolia Bth. Petals white, mostly with lavender veins. Wheat field.

Berenda, 250 ft.

No. 15,159. Poa scabrella (Thurb.) Benth. et Vasey. This grass grows in the railroad right of way and is very conspicuous just now. Common.

No. 15,160. Lupinus bicolor Lindl. var. pipersmithii with 15,159.

✕ cont. from p. 95, headline.

That is to say, I collect at a point 4 miles southwest of Wideawake Ranch. See Little Table Mt. quadrangle.

Califa, Madera Co., 247 ft.

No. 15,161. Allocarya leptoclada Greene. This is a species quite distinct from the Allocarya stipitata of the vernal pool beds. A. stipitata has ascending or erect stems from the base; this species has the stems radiating horizontally from the root-crown with the tips ascending — decumbent in other words — and elongated-linear leaves. Vernal pool bed. Infrequent as compared with 15,162.

No. 15,162. Allocarya stipitata Greene. var. micrantha This grew densely in the former or old beds of winter pools. See no. 15,161, with which it is there compared.

Califa, Madera Co., 247 ft.

No. 15,163. Lasthenia

Heads, that is disks, when in full flower are cake-shaped. Sandy soil of the plain.

No. 15,164. Baeriopsis bipinnatifida Dougl.

Heads purple.

With 15,163.

No. 15,165. Callitriche marginata Torr. Beds of former winter pools.

No. 15,166. Psilocarphus brevissimus Nutt.

A Gnaphaloid, growing on the margins of former winter pools.

No. 15,167. Orthocarpus

Sandy plain

No. 15,168. Orthocarpus micranthus Greene. Sandy plain

No. 15,169. Poa annua L.

This grass grew in the beds of former winter pools.

No. 15,170. Psilocarphus brevissimus Nutt.

This gnaphaloid grew in the former beds of winter pools.

No. 15,171. Pericedanum marginatum (C.+R.). Buds purple, in anthesis yellow. Sandy hillocks on the plain (= Lomatium canifolium C.+R. var. erythrocarpa Jepson).

No. 15,172. Psilocarphus tenellus Nutt. var. tenuis (Eastw.) Crong. This gnaphaloid grew in the former beds of winter pools.

No. 15,173. Tillaea Drummondii T. & G. (= T. aquatica) Beds of former winter pools.

No. 15,174. Pilularia americana A. Br. (det. R. Tryon, 1938) Beds of former winter pools.

No. 15,175. Lilaea subulata H.B.K. With 15,174.

no. 15,176. Tillaea erecta K.T.A.
Sandy plain

no. 15,176a.

This succord grew in the former bed of a winter pool. It was taken by accident with Tillaea drummondii 15,173.

— Cont. from bottom p. 94. on Friday morning. My host, Dumford Thornton, knows this country of old and has a fine sentiment about it. He says that Pine Ridge in its primitive state was a delightful and beautiful country, its great Sugar Pines, its fine meadows lush with vegetation. In the old days this region was the center of Fresno Co. Millerton was the County Seat; at that place still stands the old county building. At Academy was once a fine academy for all this region — a name clinging to the place, even though its school has long since passed away.

I drove up the San Joaquin River nearly to Fort Miller site, then back to Friant, thence to Wide-awake Ranch, a fine old ranch of pioneer days kept still in excellent repair. On the Madera road about 4 mi. from the ranch (5½ mi. w. of Little Table Mt.) I stop on the low-rolling plain to collect nos. 15,149 to 15,155.*

The term Sparkville, used on p. 88, is merely a convenient place name for my collections on Little Dry Creek. Probably only a pr. flag stop, since I do not recall seeing even a house at the spot. But it is marked on the U. S. topographic map. This region

* Thence to Madera town.

was more populous once. Millerton was the county seat of Fresno County in the fifties. Millerton doesn't exist any longer. Academy was an important school in its day. It is now simply Academy, a hamlet. (for this foothill region)

— Vicia californica seems to be merely a variety but is close to var. truncata of V. americana; its leaflets are shaped as in var. truncata but are subcoriaceous; tendrils short and simple; stems low and zig-zag; and herbage soft-pubescent — Dorothea Gorlér, student in Bot. 112. Greene suggests it may be V. truncata var. villosa Kell.

No. 15,177. Phacelia memoralis Greene.

No. 15,178. = B. geniculata (Desf.) J. Ball Brassica adpressa.

No. 15,179. Lupinus formosus Greene. Stems spreading or ascending.

No. 15,180. Aster radulinus Gray

The spms. show the offsetting in the above ground shoots, from the underground roots, from year to year.

The above four numbers were collected in Strawberry Canon, the Lupine and the Brassica on the shoulder of the hill above head of Bancroft Way.

Berkeley, Apr. 1929.

— Herbarium technique. It used to be said by Miss Alice Eastwood that it were better to give some name to an spec. than to leave it un-named be- [Herb] cause uncertain or doubtful. It is my thought that spec- are difficult to rescue from covers where they lie misnamed. A small specimen of Lepidium collected by Parish at San Bernardino, labled latifolium by Miss Tinsley, escaped me, "got by" as to speak for untold months. If it had been unlabled I think that earlier I would have recog- nized it as L. robinsonii Thell. — Apr. 5, 1929.

— International Boundary Commission U.S. & Mex. Edgar A. Mearns. H. Schoenfeldt. Collectors. 1894. They gathered tra- bis perennans Walt. var. longipes Wats. at Laguna, San Diego Co., June 14.

Berkeley, Apr. 12, 1929.

— Just in to make a botanical call, N. Miror, a Russian. He is a young fellow, formerly a student at Leningrad under Johann Borodin and Litvinoff (= Litwinow, W. J.). He made in 1914 a study of the vegetation of an island in Lake Baikal in Siberia, producing a paper published in 1927 (or 1928) in the transactions of what was formerly the Imperial Institute of Botany at St. Petersburg. This chap is very pleasant in manner. He is now connected with the U. S. Forest Experi- ment Station in Berkeley. He has worked out an excellent paper on the histological and chemical differences between Pinus ponderosa and Pinus jeffreyi.

Berkeley, Apr. 1929.

-California Botanical Explorers. Wm. R. Prince, said to have been an early day collector of the native plants near Sacramento (1849-1851) and an introducer of them into the Linnean Gardens or Nursery, Flushing, Long Island. Described as an "enthusiastic botanist" in a letter from the Broadway Book Shop (H. Barton); Apr. 14, 1928. See file.

-"Where Douglas pioneered". Jno. D. Guthrie. In Scientific Mo., about 1925.

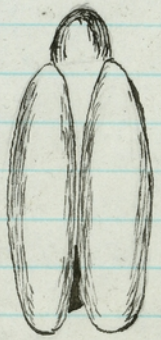
- Cont. from p. 61. After writing an angry reply to my "statesman-like" letter, Mrs. Bryant never came to get counsel from me again until 1932, when she visited Berkeley in 1932, and used Mrs. Duncan McDuffie as go-between step to save her face. See Men and Manners, vol. 6, p. 28.

Suisun, April 11, 1929.

No. 15,181. Zannichellia palustris L.

In pools near Suisun on road to Tolenas. The flower clusters are borne in the leaf axils. These bodies and the leaf bases are covered by membranous boots or sheaths.

These winter pools are probably a little alkaline.



young anther, — somewhat translucent

No. 15,182. Chara

Fruiting bodies globose, pink-salmon color, borne in abundance in the axils, 1/3 mm. in diameter. With 15,181.

No. 15,183. Nostoc?

Globose bladder-like algae?

attached somewhat botryoidly to old ? grass stems. With 15,181.

No. 15,184. Fillaea erecta H+A.
Separated in lab. from 15,108, coll. on Table Mt., Fresno Co., 3-27-29.

— Greene, E.L. In working over Cruciferae for the Fl. Cal. I have had much to do with Greene's propositions in Pittonia and in his "Leaflets". I think he must have recognized that there could never be a finishing up of Flora Franciscana and definitely abandoned it. Indeed there could scarcely be a flora made on his basis of species at all for a very long time — perhaps a century. At least so it seems to me. [Well, I may be wrong as to that. It is just as easy to make a key to fine species as broad ones — though the keys will not be so workable.]

Apr. 24, 1929.

— Drove today to Palo Alto via Alviso to see Pierce who, amongst other talk said: "The seaside laboratory of Stanford at Monterey has been enlarged and has been re-named the Jacques Loeb Seaside Laboratory, after the first man who did the work at seaurchins at Monterey and as an amends for the manner in which he was mistreated at Monterey. This incident was of years ago: Loeb had been given a room in the seaside laboratory to work. As the summer drew near in which he was notified that the room would be needed for the regular summer seaside session. Loeb vacated in great wrath; told his story to Hertzstein who built for him a small work place on the sea near Monterey. At that time the Stanford men

Palo Alto, Apr. 24, 1929.

in charge of the laboratory were the zoologists Jenkins and Gilbert. Mrs. Loeb was consulted and it was found that it would be perfectly agreeable to her". Pearce told this story as it would be told by an official of the Stanford administration who had managed and approved the whole transaction.

I expressed my surprise that the seaside laboratory should be named for Loeb on such slender grounds. It then came out that members of the present staff of zoologists who are in residence there, especially Dr. Fisher, are much incensed at what has been done. It was meant too, apparently, that I should infer, at least subtly understand, that since Hertzstein had given a large sum of money to Stanford

Alviso, Apr. 25, 1929.

Santa Clara Co. c. 15 H.

(for certain purposes I do not now recall) and had evidently dictated the name now given the seaside laboratory.

Pearce likened C. B. Lipman and his great discoveries in plant physiology to the work of the Indian Botanist, Sir Jagadis Chunder Bose. (Cont. p. 112.)

(Discarded, insect damaged)
No. 15,185. Lasthenia

Forming large yellow spots of gold on the alkaline flats just ↑sub- of Milpitas.

(Discarded, insect damaged)
No. 15,186. Tragopogon

Grassy fields. Alviso.

No. 15,187. Brassica arvensis B.S.P.

Alviso, common.
= B. Kaber (DC.) Wheeler
var. pinnatifida (Stokes) Wheeler

Cont. from p. 111. Pierce, perhaps in a strictly official sense again, gave great praise to E. B. Copeland. I remarked the highly violent language which Copeland had used to H. L. Mason as unfitting him for any University position. This conversation arose out of Pierces statement that he "gone out and sat the afternoon" with Copeland telling him that, as spokesman for the old-time students, he (Copeland) was not to treat the occasion for the Campbell dinner as if it were a funeral, simply because Campbell was retiring. When the evening and the dinner came, Copeland, says Pierce, did everything he had been told not to do! On account of

this violence, said Pierce, Copeland lost his place at Indiana, at West Virginia and perhaps Chico. E. D. Merrill is the only man that can control him.

- Tropidocarpum capparideum Greene, collected by H. L. Mason on road that branches north from highway at Mountain House, Altamont Pass-Tracy road. In field immediately back of Mt. House (east of road) near a milk-can loading platform. About Apr. 1, 1929.

Berkeley to Stockton, Apr. 27.

— Drove via Marsh Creek to Byron, and beyond Byron by country roads to Mountain House, at latter place looking for Eschscholtzia californica Greene. Too late and dry. Hours labor lost. Went on, via the Borden cutoff to Stockton. On the lower alkaline lands westerly from Byron Allenrolfea occidentalis bushes grow (3 to 4 ft. h), in all probability originally covering these flat lowlands. Stopped all night at the Hotel Wolf. Tried to find J. A. Sanford but failed to locate the street number. Next morning with the car found it immediately. He lives in a neat cottage at 17 West Magnolia st. He was glad to talk botany and spoke of his life at Evanston, Wyoming. He had some contact in those days with Sereno Watson. (There is always a reason of this

Stockton, Apr. 27, '29.

kind. usually, for a man sticking to botany a life as a hobby — the influence of a professional worker or full-time (so-to-speak) amateur. On settling at Stockton he collected immediately around him — in the sloughs and lowlands. When I referred to the Sierra foothills he said he had never botanized them. In that earlier day E. L. Greene came to Stockton occasionally: spending half his time in the field (said Sanford) and half at church! He remarked (Sanford) the many native species that have disappeared or become rare. Asclepias eriocarpa was at one time common in the town.

Next, I drove to Lodi, thence to Lockford (nos. 15,184 to 15,195 collected near there), to Clement (nos. 15,196 to 15,203, collected nr. on the low rolling red hills). I collect again

Stockton to Lockeford, 100 ft.

on the side of an sloping hill, opposite an abandoned ranch (nos. 15,204 to 15,205) and soon come to a point where the Comanche road enters the Jone road. There is a school here and a few scattered houses. I go on to Jone and above Jone, on the Jackson road, I run into ¼ mile Arctostaphylos mystifolia (no. 15,206) on the red-clay gravelly hills. It is associated with Arctostaphylos viscida, Pinus sabiniana, Adenostoma fasciculatum, Ceanothus californicum (a little). It forms low rounded bushes 1½ to 2½ feet high and very distinctive in appearance, with many stems from the base, the stems glaucous! clear to base! and thus imparting an ashy-color to the inside of the crown, this color aspect is very striking when one's attention is drawn to it. — Cont.-p. 132. —

No. 15,188. Phalaris lemmonii Vasey

This grass grew in the railroad right of way near Byron.

No. 15,189. Medicago hispida Gaertn.

Grassy field, Lockeford.

No. 15,190. ~~Trifolium ciliolatum Benth.~~ Trifolium ciliatum Nutt.

Lockeford.

No. 15,191. Mimulus tricolor.

Lockeford. Former pool beds.

No. 15,192. Downingia pulchella

Torr. Lockeford. Lower lip trefoil-shaped, the white central area of the blue field with 2 yellow spots.

No. 15,193. Orthocarpus attenuatus Gray. Grassy banks.

Lockeford.

No. 15,194. Deschampsia danthonioides

This grass grew in moist "hogwallows". Lockeford.

↑shallow

No. 15,195. Alopecurus saccatus Vasey

(Det. Beecher Crampton, Mar. 1932)

This grass with no. 15,194

Clements, San Joaquin Co. c. 200 ft.

No. 15,196. Lupinus ~~bicolor phyllus~~ Benth. Hillslope, Clements. [L. truthamii Hel.]

No. 15,197. Trifolium Hillslope, Clements.

No. 15,198. Limnanthes alba Hartw. This has the calyx lobes, rather densely long-pilose on the outside as well as "inside" (Mum.). Tips of white petals fading rose-pink!

Base of petal: tuft of hairs denser than as represented in Fig. 588, Mum. and the two bands more nearly meeting at base. Red-clay hills, Clements.

No. 15,199. Baeria

No. 15,200. Hysanocarpus radians Bth. Clements, red hills nr.

No. 15,201. Limnanthes alba Hartw. Red-clay hills, nr. of Clements in moist swales. Petals pink in age, at least upper half. Stems, ascending from base, fleshy !! few, fragile-jointed at base!

No. 15,202. Erodium botrys Bertol. Forming over vast areas of the low rolling red-clay gravelly plain 50 to 90 per cent of the ground cover.

No. 15,203. ~~Tritelia~~ Brodiaea hyacinthina Baker. Red-clay hills in very dry soil.

No. 15,204. Trifolium amplectens T. & G. Red-clay hills.

No. 15,205. Layia fremontii (T. & G.) Gray. Dry hills. Rays clear white, with pure yellow lower half.

Ione, Apr. 28, 1929, 400 ft.

- Ione has changed less, perhaps, than some towns in the foothills. There are many homes of pioneer days (none of them bourgeoisie). There is a solid red-brick Methodist church dated, I think, 1863; a stone Presbyterian church dated 1871. By the town runs Sutter Creek with a sprightly flow of water.

No. 15,206. Arctostaphylos myrtifolia Parry.

No. 15,207. Sanicula bipinnatifida Dougl. grassy hillslope, Ione.

No. 15,208. Lepidium nitidum Nutt. with 15,207.

No. 15,209. Sanicula bipinnata H.B.A. grassy hillslope.

No. 15,210. Lupinus nanus Dougl. grassy hillslope.

No. 15,211. Lepidium pubescens Desv., that is, to say, L. bipinnatifidum of Cal. authors. Beaten ground in Ione. = L. strictum (Wats.) Rattan

No. 15,212. Matricaria matricarioides (Less.) Porter Ione; beaten ground.

No. 15,213. Eschscholtzia caespitosa Benth. About 1½ mi. ne. from Ione on canon side; common in the locality, a restricted one. c. 500 ft.

No. 15,214. Carex c. 500 ft. Canon bottom, 1½ mi. ne. of Ione, foot of Churchill Hill.

— Last night I went into camp at the end of a village side street on the edge of Sutter Creek. Except for one permanent camper, a workman in a tent, I had the place to myself. It was fairly quiet. A proctor from the Ione Industrial State School came into camp and talked of his search for two runaway boys. The

Dry Creek hills, n. of Jore, 550 ft.

school has several large buildings just north of the town. The Amador Co.

next morning, Apr. 29, I take the road northeasterly over Church Ville Hill.

No. 15,215. Linanthus filiferus Greene. gravelly sterile spots, very common, that is, in striking colonies, making spots of color.

No. 15,216. Chaetopappa Asinoides (Greene) Keck. This slender composite is hidden, so to speak, amongst other things and one has to search closely to get a sheet of it. Gravelly spots

No. 15,217. Medicago apiculata Willd. = M. hispida var. confinis Grassy slopes.

No. 15,218. Microseris elegans Finely gravelly spots.

No. 15,219. Agoseris heterophylla Gravelly dry soil.

No. 15,220. Medicago hispida Gaertn. Moist swale in the hills. Dry Creek bridge, 500 ft.

No. 15,221. Ranunculus With 15,220.

No. 15,222. Sisyrinchium bellum Grassy vale.

No. 15,223. Geranium dissectum L. Pets. purple, notched. Grassy vale.

No. 15,224. Trifolium variegatum Nutt. var. melanantheum Greene. Grassy vale.

No. 15,225. Orthocarpus erianthus Bth. Grassy vale.

— About 3 or 4 miles northerly from Jore on the gravelly hills I collect nos. 15,215 to 15,219. I go on, cross the Dry Creek bridge over a small river of water, and on a hillslope* collect nos. 15,220 to 15,225. I go (cont. p. 125.)

*(see photo of this spot).

Willow Springs Sta., Sacramento-Jackson c. 650 ft.

No. 15,226. Cryptantha intermedia Greene. Colonies on the serpentine rocks!

No. 15,227. Ranunculus hebecarpus H.&A. Shade of rocks.

No. 15,228. Madia exigua (Smith) Greene. This madioid plant grew on gravelly serpentine.

No. 15,229. Pityrogramma triangularis (Kaulf.) Maxon var. pallida Weath. This fern grew in the shade of rocks on the serpentine outcrop.

15,229a Cheilanthes californica (Hook.) Nutt.

No. 15,230. Microseris linearifolia Sunnyset rocks in the serpentine outcrop.

No. 15,231. Sanicula menziesii H.&A. Serpentine outcrop

No. 15,232. Pellaea mucronata (D.C. Eaton) D.C. Eaton var. mucronata This fern formed heavy tufts amongst the rocks of the serpentine outcrop.

road, Amador Co., Apr. 29, 1929.

No. 15,233. Pogogyne serpylloides. This labiate, a tiny plant, is decumbent on the gravelly-soil in semi-shade. The corolla is blue-purple: middle lobe of lower lip quadrangular, spreading, larger than the quadrangular lateral lobes which spread at right angles to it. Upper lip entire, erect, obtuse, smaller than the other lobes. Stamens apparently 2.

— Briza. See no. 21,187.

No. 15,234. ~~Montia~~ Claytonia spathulata Dougl. ssl. Plants fleshy, somewhat globose. Gravelly soil in semi-shade.

— Cont. from bottom p. 123. on northerly and stop for good botanizing on a serpentine hill (nos. 15,226 to 15,234). This rocky outcrop is about one mile south of the point where my road joins the east-west Sacramento-Jackson road. There is a service station at this junction called Willow Springs Station.

Willow Springs sta., Sacramento–Jackson road, one mile south.

No. 15,235. Trifolium variegatum Nutt. var. pauciflorum Torr. & Gr. at this serpentine outcrop there is a swale, filled by a little meadow. In mid-winter or wet years it must be swampy but is now rather dry, though well covered with Mimulus guttatus in full flower. This Trifolium is common, too.

No. 15,236. Poa tenerrima Scribn. (det. Beecher Crampton, March 1973) This grass grew with 15,235.

No. 15,237. Deschampsia danthonioides (Det. B. Crampton, 3/72) This grass grew with 15,235.

No. 15,238. Mimulus guttatus DC. See 15,235.

No. 15,239. Agrostis microphylla Steud. (det. B. Crampton, 3/72) This grass grew with 15,235.

[Nos. 15,235 to 15,235 in a mdw. by the serpentine outcrop.]

road, Amador Co., Apr. 29, 1929. c. 650 ft.

No. 15,240. Rafinesquia (Discarded, insect-damaged) This composite grew amongst the rocks (serpentine outcrop).

No. 15,241. Layia heterotricha (Torr. & Gray) Hall. Willow Springs.

No. 15,242. Allocarya greenei Greene. Willow Spgs. Gravelly hill.

No. 15,243. Collinsia sparsiflora F. & M. var. collina Newsom. Moist grainfield, good soil. Willow Spgs.

No. 15,244. Heterocodon rariflorum Nutt. with 15,243.

No. 15,245. Galium with 15,243. Erect by reason of the gramineae in the field.

No. 15,246. Limnanthes alba Hartw. var. datoana Jepson. Calyx hairy a little inside, glabrous outside. Corolla white, in age pink at apex or upper half. This is like, ap-

parently, no. 15,198, except as to outside of calyx pilosenes. The corolla in both cases is somewhat bowl-shaped, tending to be globose in age when the colored-withering tips turn in slightly. With 15,243.

No. 15,247. Limnanthes striata Jepson. With 15,243. Corolla distinctly, markedly, narrower than in 15,246, that is, it is campanulate! white! with greenish-yellow center, this center with purple-brown liner (longitudinal), rather marked, these liners: I do not notice any "fading rose-color" as remarked under L. rosea Hartw.

No. 15,248. Ranunculus hebecarpus H.&A. With 15,243.

No. 15,249. Ranunculus with 15,243.

c. 650 ft.

see p. 133 for water on moss, 15,251 to 15,258.

No. 15,250. Trifolium tridentatum Lindl. var. Twatsonii Jepson. With 15,243.

No. 15,251. Micraeris acuminata Gravelly dry hills.

No. 15,252. Blennosperma californicum T.&G. "Papillae" whitish, slender! Dry (at this time) gravelly hill.

No. 15,253. Gilia tricolor Bth. Gravelly (dry) hillslope. Var. longipaduncellata greenm.

No. 15,254. Trifolium albopurpureum T.&G. Gravelly hillslope, dry.

No. 15,255. Thysanocarpus radians Bth. dry gravelly hillslope.

No. 15,256. Chaenactis Dry gravelly hilltop.

No. 15,257. Calycadenia Dry gravelly hilltops.

No. 15,258. Micropus californicus T.&G. This gnaphaloid plant grew on the gravelly hillslope.

Michigan Bar, Sacramento Co. 300 ft.

No. 15, 259. Cardamine oligosperma Nutt. Michigan Bar

No. 15, 260. Lupinus microcarpus L. densiflorus var. aureus Sims var. densiflorus Jepson. White-flowered. On the broken hillocks in the hydraulic mining area near Michigan Bar School. Here this section of the Lupines love broken ground. Cf. L. succulentus!

No. 15, 261. Achyrachaena mollis Schauer. With 15, 259.

No. 15, 262. Baeria Stonehouse School,

No. 15, 263. Linanthus alba Harter. Swales on the rolling gravelly plain 2 mi. westerly from Slough House. Cor. white, aging red-pink.

No. 15, 264. Brodiaea minor (Bth.) Wats. In very dry

Apr. 29, 1929, c. 100 ft.

hard ground, 2 mi. westerly from Slough House.

The corms are hard to get out, breaking off very easily from the stem; they are quite small.

No. 15, 265. Trifolium

In moist swale, 2 mi. W. of Eagles Nest road sta., on Sacramento-Jackson road (n. Sacramento Co.)

No. 15, 266. Psilocarphus brevissimus Nutt. This gnaphaloid plant grew in the beds of winter pools; with 15, 265

No. 15, 267. Gratiola ebracteata Bth. Beds of winter pools. 2 mi. westerly from Eagles Nest road sta., n. Sacramento Co.

No. 15, 268. Downingia pulchella With 15, 267.

Slough House, Sacramento Co.
Apr. 29, 1929.

No. 15,269. Navarretia leucocephala Benth.
with 15,267.

— Cont. from bottom p. 116. I also notice other shrubs of this species, Arctostaphylos mystifolia, in no wise differing in any way save that the stems are dark-red-barked and not glaucous.

I drive to Sacramento, eat supper in a little eating place for workingmen (where I can park my car in view) and go on to the little Oak ranch where I spend the night.

No. 15,270. Xanthium canadense Mill.
These seedlings taken from one of the deeper winter pool beds between Suisun and Cement, about 1 mi. NE. of Fairfield. Apr. 30.

— Cont. no. 15,202. where the plants form the almost exclusive ground cover they are

No. 15,271. Juncus Amador Co.
Cacum Sutton, west; 1½ mi. NE. of Ione, foot of Churchhill Hill. Apr. 29, 1929.

— [Nos. 15,251 to 15,258, collected on very gravelly red-clay soil.]

— Two miles west of Slough House, the gravelly red-clay rolling plain = 90 o/o of vegetation = Erodium botrys. Also a heavy proportion of this species through the foothills.

— Parry, C.C. cf. Natl. Biography, Cyc. Am. 13:228.

Berkeley

— Called today Mrs. Kate Jared Stirring, daughter of L. Jared, old-time botanical collector in San Luis Obispo Co. Cf. Lepidium Jaredii Bdg. He was born in Illinois on Aug. 6, 1832. Graduated from Knox College. Came to California about 1871 and settled near Los Angeles. Moved to Santa Barbara Co. and then to San Luis Obispo Co. In San Luis Obispo Co. he lived only at Estrella (circa 1883 ± 1894). He died in 1908. — May 1, 1929.

— Arabis rectissima Greene. Re. the note as to A. nemophila Greene. Abrams' authentic specimen should be examined again as to its specific identity.

— One of the brightest women ever in my laboratory is Lauramay Tinsley. She writes for an M.A. a very good treatment of California Lepidiums. Three years after my Manual appears she writes this query: "Is Streptanthus insignis Jepson still a new species?" She does not mean by that: is it valid? Not at all. It has also happened in the case of Miss Elsie Zeile that she has copied a binomial thirty years old and written asp. after it because this symbol appeared on the original. And this was in ordinary use of the binomial.

— Nuttall, Thos. of Natl. Cycl. Am. Biography 8:374.

— Mrs. Kate Jarad Stirring says: My father, Lorenzo Dow Jarad, was of British ancestry. His paternal grandfather was an Englishman, his maternal grandfather, named Rodson, was a north of Ireland man. In the United States the family is associated first with Tennessee. At an early day, they moved to Illinois, pioneered at a time when all household cooking was done in a fireplace with cranes and pots. Grandfather Jared, says Mrs. Stirring, was one of the first to have a cook stove and all the remote neighbors came to see the iron oven. Lorenzo Jared was prepared for college at Cherry Grove Seminary, Illinois. He was a freshman

in the class of 1853-'54 at Knox College. He took the regular classical course and was a student of Latin, Greek, Mathematics and Philosophy. Mrs. Stirring insists that he graduated. After college he went into medical training, first at an eclectic school in Cincinnati, later at an allopathic college in New York City where he took the degree of Doctor of Medicine. He served as assistant surgeon to the 23rd regiment of Illinois* in the closing year (1865) of the Civil War.

He felt that medicine was to too great a degree guess work and so preferred surgery. For this reason he went to Moingona, Iowa, to practice. It was a mining district

* army Certificate shown me by Mrs. Stirring.

and a certain amount of surgical cases. He lived at that place five years, coming to California in 1870. — [May 11, 1929.] His mother Martha Ralston was, therefore, of north of Ireland blood. He had five children. See memorandum by Mrs. Stirring in letter file, May 11, 1929. See also p. 134 ante. Also p. 139 infra.

— Eisen, Gustav. Collected a little. One of the few who ever collected Stanfordia californica (near delano ace. Ann. Mo. Bot. Gard. 9: 300), in 1888.

— Jared, L. Collected and sent spms. to Gray. He was one of the early collectors of Hemizonia paniculata Gray. cf. Proc. Am. Acad. 19:17; Syn. Fl. 1:307.

— L. Jared. Mrs. Kate Jared Stirring in and says: Father first went to a medical college (Allopath) in New York City, then he was married; she thinks by this time he had his degree but is not certain; then as a married man spent a year at an eclectic medical college in Cincinnati. The family lived near Abingdon, Ills. When he first went to the college at Galesburg, Ills., it was called Prairie College, being changed to Knox College about this time (this name) he was there. The records of Knox do not show that he took a degree. He never practiced after coming to California. He came to San Luis Obispo Co. about 1884. In the early 1890's probably he wrote some popular articles on the uses of the native plants for the paper

called the San Luis Press. He was a liberal in religion and wrote articles of a philosophical nature for the Pacific Unitarian, and also for the Christian Register (Boston). See p. 135 seq.
— Dr. J.B.D. Stillman. Professor Frederick Slate says he knew John Stillman, the son, when he was a student in the early years of the University and the two became good friends. He knew the father, Dr. Stillman, by sight. He was of an English type — with side whiskers and florid countenance, much of the John Bull picture. — May 30, 1929.
— Talked a bit with H.E. Bolton of the Bancroft Library this morning. He says that the earliest

Spanish expeditions, Anza and Crespi, I think he said, found the Gilroy Valley swampy, difficult to get through and went along the edges of it. But there were "lunares" thrown over it by flood action! — June 1, 1929.
— Kit Carson in California (Touring Topics, issue of Sept. 1927.)
— Miss Louise Hilgard says: I remember the time when our cousin Dr. Geo. Engelmann, of St. Louis visited us here in Berkeley, in this house. We went, all of us, on a trip to Martinez, to pay a call on the Strentzel family. We had sent a letter saying that we were coming, but the letter had not been received. So we arrived inopportunely. We were

* Singular = lunar.

very hungry but they had no dinner ready for us. Indeed – it being a very hot day – they were resting, sleeping. John Muir had just married Dr. Strentzel's daughter. One of the absurd things that sticks in my mind is this. In order to make John presentable, his wife had curled some of his locks and a bit of the oily dressing had escaped and was running down his neck! It was grape time and Alice and I were sent to the vineyard to appease our hunger."

– Nuttall, Thos., mentioned a number of times, F. H. Herrick's Audubon the Naturalist. See Index, vol. 2. See also Journals of John James Audubon, edited by Maria R. Audubon, index to vol. 2.

– Guayalule. The article in Touring Topics, May, 1929, – p. 26 – says that J. M. Bigelow of the Mexican Boundary Survey was, in 1852, the botanical discoverer of the Parthenium argentatum.

– I have now about finished copying the letters written to E. L. Greene (see p. 170 seqq.) by various correspondents. It has been a difficult task but highly interesting. The letters of certain correspondents were not copied, for example, H. N. Patterson and those of Stephen T. Olney. Olney wrote a great many letters and named for Greene plants other than sedges.

John Ball of London writes him a very pleasant letter from Monterey. With Coulter

Trotter of Trinity College, Cambridge, he is making a rapid tour of the U. S. on his way to the British association meeting at Montreal. His letter is dated simply "28 July" addressed to Greene at Berkeley. He has seven letters of the year 1885. Letters from Barclay Hazard are dated Aug. and Sept. 1885. He was in active correspondence with M. S. Babb from 1892 on. Under date of Feb. 8, 1876 he (M. S. Babb) writes that the Flora Cal. 1st vol., is announced to appear "this winter", but the 2d vol. will be "delayed" "at least a year".*

There are a good many

* Babb's letters mostly not copied.

letters from H. H. Rusby, in 1883, who is collecting in Arizona. None is copied. (see the letters in letter-books & look envelopes.

Some of the letters are not in letter books — those after about 1885. One is from J. J. Lemmon who addresses the envelope thus: "Prof. E. L. Greene, Curator of Botany, California Academy of Sciences, cor. Dupont and California, San Francisco, California". In the scrapbook of Greene there are also many newspaper clippings: "Berkely Great Loss", S. F. Call. July 21, 1895, portrait, just after Greene left, for Washington. It says that this Berkeley scientific publications cost $8000 ann., of which "the university has not borne a dollar".

The article sounds as if written by Greene, certainly must have been inspired by him. It contains a list of his writings and includes vols. 1 & 2 of Erythea.

Greene could not do anything systematically and continuously in the way of records*. He kept no field book in my sense. I find a diary for Aug. 1904, telling what he did each day - It is on loose note-paper sheets 5" x 8" in size, letter-heads of the Catholic University of America! This is like Lemmon! His notes of all kinds

* see p. 149

on rare scrap pieces of paper and loose, or in cheap little blank books, paper-bound. E. L. Greene was a member of Co. I, 13th Wisconsin Infantry, in the Civil War, as would appear from a Veteran's roster (pamphlet) I find in his scrap book.

"The problem and mystery of life seem to have no other than a theistic solution". "Why should each variety of wheat be produced from the respective seeds though neither farmer or wheat dealer nor scientist with his microscope can detect the slightest difference between them. The agnostic biologist is unable to suggest an explanation as satisfactory as that found in a certain book called Genesis, wherein it is

stated that God decreed that every plant should produce after its own kind." — E. L. Greene in a newspaper account of his second "Graham Lecture" delivered in the "Art Building", probably in Brooklyn, as reported by the Brooklyn(?) Eagle (!!)

The Morning Times (doubtless Washington, D.C.) has a brief biog. notice of Greene and a picture. The year 1881 is implied as the directly year when he first gave "a similar course of lectures" at the Univ. of Calif., being appointed to a "professorship" in 1885. [Kelly, instructor.]

Greene had an evident interest in longevity, since his scrap book contains many newspaper clippings relating to persons 100 years old or more.

In almost no case did he

preserve the name of the newspaper or its date, though in a few cases he preserved the one but not the other. In fact

Cont. from p. 146 at *. I am sure Greene never numbered specimens except to send to Gray or others for determination. And there not continuously but in separate or yearly lots. Or, when he numbered sets of plants for sale. These numbers, however, probably duplicated previous numbers (— as numbers). —

Cont. p. 153, also p. 165.

— Last night I called on Mrs. S. B. Parish. She said: Dr. and Mrs. Gray came to visit us in our San Bernardino home in the spring of 1885. They stayed two day. Dr. Gray

was cold and kept very near the fire. When Mr. Parish brought in wood and replenished the fire, he did not interfere; when I brought it he took the wood and arranged it on the fire himself. We found him very kindly and agreeable in every way. They stopped with us two days. While they were with us Professor Greene arrived, quite unexpectedly to us. Both Gray and Greene conducted themselves as if there were no rift arising between them, although Mr. Greene was the aggressor once and laughed at some slip made by Gray, whereupon Gray very quietly remarked that it was

well enough to laugh but also well to learn all the circumstances of the case before laughing—

June 6. 1929.

—"E. L. Greene visited us at San Bernardino more than once. Mr. Parish always got along well with him. Mr. Parish had great control of himself. He was not easily disturbed or ruffled. Annoyances of this or that slipped easily over him. And then he had this unfailing sense of humor." — Mrs. B. Parish, TS.

June 6. 1929.

—In the autumn of the same year (1885) that Dr. & Mrs. Asa Gray visited the Parishes at San Bernardino, Mrs. K. Curran paid the Parishes a visit. She was at that time, says

Mrs. Parish, very much in love with Mr. Greene. — June 7, 1929.

— Haenke, Thaddeus. Descripcion del Peru. Lima. 1901. In Library of Congress acc. to our cat.

— A biography on p. 225, vol. 4 of Diccionario historico-biografico del Peru. (U.C. Library.

— A criticism of Haenke in Minerva Peruviana (Harvard Library).

— Malaspina y Bustamente y guerra. References to Haenke: p. 46, 97, 117, 159, 190, 218, 231, 241, 254, 262, 340, 342. Frontispiece is a portrait of Malaspina! U.C.= call no. fG. 420 M3.

— Azara. Viajis por la America. p. 43. U.C. = call no. = F 2691 A8.

— Cont. from p. 149. Re. E. L. Greene. As to his numbering of specimens much may be inferred from his own account in "Botanizings in Colorado" Early One of his correspondents in Siskiyou Co. was James Behrens who sent plants to him at Berkeley from "Soda Springs, Siskiyou Co., per Hazelcreek P.O., Shasta Co., Sept. 1, 1885. (Greene's letter coll.), (See Naturalists Directory, 1878.)

— Went yesterday to St. Helena. Talked a bit with Mrs. D. O. Hunt. As a young woman she knew E. L. Greene when he was in charge of Grace Mission (Episcopal) at the village of

Temescal, later called Alden, now a part of Oakland. She says that he had no money, was always very poor, went in the meanest clothing in order to buy botanical books. He invited young people of the Mission to go out walking – to study nature. But she did know not know enough, that is, was not sufficiently appreciative of the opportunity to accept.

Apparently Greene was one to offer himself for any Mission field. He despised money getting when there was such a thing as botany to give one's time to. – June 13, 1929. Cont. p. 172.

– Audubon, J.W., Western Journal. Has been reprinted by the Arthur (1906)

H. Clark Co., Cleveland. Dr. Frank is mentioned in this edition on pages 158, 174, 195. San Felipe, Santa Isabella, are mentioned on p. 168. He makes special mention of the tall growth of native grasses in or near the edge of the foothills easterly or northeasterly from Stockton. Dr. John B. Frask (M.D.) became a friend of Albert Kellogg.

– Harkness, H. W., a physician of Sacramento. See Naturalists Directory, 1878.

– Jared, Lorenzo Dow, graduated from the Electic Medical College Jan. 30, 1857, Cincinnti. This college is a consolidation of the Worthington Medical College (1833), American Medical College (1853), and Eclectic Medical Institute (1845)

He was enrolled as from Abingdon, Ills. See p. 139 ante. Diploma shown me by Mrs. Kate Jared Stirling.

– Curran, Mrs. K. Wanted to sail under her maiden name Layne. Cf "Litterae Quae Salem Habet" p. 241.* I was under the impression that this confused Asa Gray who asked, somewhere in his letters, if I remember right, why not stick to Curran? Gray could not know of course why she abominated Curran.

– David Douglas. Cf. Gray's remark on p. 197 of "Litterae Quae Salem Habet".*

* Letters witty and salty.

– In my biography of Dr. Albert Kellogg for the Dictionary of American Biography there is mention made of his journeying with Audubon to Texas. But which Audubon? Greene (Pitt. 1: 145 – 1887) issued his biography of Kellogg about six months after Kellogg's death. He was intimate with Kellogg. He says "Audubon, the famous ornithologist," implying John James Audubon, and adds that "this journey landed our botanist eventually in San Antonio, Texas, in the autumn of 1845. But Audubon's sole expedition to Texas was in 1837 when on Apr. 24, 1837 he was in Galveston Bay (cf Buchanan, Life of Audubon, p. 307). It seems more likely that Kellogg

was with the son John Woodhouse Audubon who made a scientific expedition to Texas, starting last of Oct., 1845 and returning aps. 1846 — see F. H. Herrick, Audubon the Naturalist 2:273. But in "Audubon's Western Journal", the narrative of John Woodhouse Audubon's California Journey in 1849, (he starts Feb. 8) there is a biographical preface by the daughter of J.W. Audubon, namely Maria R. Audubon, who says that the sole companion of his Texas travels in 1845 was James B. Clemant; (see p. 29) of the edition issued by Arthur H. Clark Co., Cleveland. Either Miss Audubon was mistaken in this statement, or Greene is mistaken in his date. Kellogg may easily

have met John James Audubon in Charleston, South Carolina. Here Kellogg studied medicine in the medical college, later transferring to Transylvania University, Lexington, Ky., where he took his degree, and where again he may have met Audubon who was for some time resident in Kentucky.

John James Audubon's journey to Texas was via South Carolina and the coast, and not via Kentucky, which may or may not be significant so far as Kellogg's joining his expedition is concerned.

J.T. Audubon returned from the Missouri River Expedition (Isaac Sprague along as artist!) to New York city in 1843. He did not go on another expedition; lost his mind in 1846, died in N.Y. Jan. 27, 1851.

In no index of the various Audubon biographies and journals do I find Kellogg's name. Occasionally there is, however, a casual mention of an individual whose name does not appear in the index.

In Appleton's Cyclopaedia of Am. Biography 3:506 (1887) occurs the following statement: "Dr. Kellogg was associated with Audubon in his exploration of Texas at the time of the annexation of that country to the United States." This date would be 1845* and therefore agree in time with the expedition of John Woodhouse Audubon.

The Appleton account is in apparent conflict* with that of Greene. The conflict might be reconciled thus: all accounts

* see next page.

make much of Kellogg's travels in the Southwest of the then U.S. He may have made the trips with John James Audubon in 1837; continued wandering in the Southern States and finally "landed in San Antonio" in late 1845. It is indicated in more than one place that the meeting with Audubon marked a turning point in his life, that is, that thereafter natural history became a major interest with him rather than medicine.

– Notices of Medical botanists might be sought for in Fielding H. Garrison's History of Medicine in Am. (300 years).

* to p. 160. Texas independence was declared in 1835, again in 1836, but annexation not until 1845. So the Greene account and the Appleton statement would agree.

Notices of Life of Albert Kellogg.

- Obituary notice: Proc. Cal. Acad. ser. 2, vol. 1, p. 276 (1888)
- " " Am. J. Sci. ser. 3, vol. 35, p. 261 (1888) **
- " " Annals of Botany 1:404 (1888)
- Sargent, C. S., Silva of N. Am. 8:120 (1895).
- Kelly, H.A. and Burrage, W.L., American Medical Biographies*, p. 649 (1920). This sketch by J.H. Barnhart, whose citation of refs. is careless.

- All the above sketches are plainly compiled from Green's biography in Pittonia (vol. 1) and from the Appleton Cyclopaedia.

In National Cycl. Am. Biog. 2:446 I find that the father of Albert Kellogg was Isaac Kellogg and his mother was born Aurilla Barney.

* This work contains notices of many medical botanists.
** Am. J. Sci. contains botanical obituaries.

- Thos. Bridges. - Dr. Theo. Palmer has just been to call (U. S. Biological Survey, Washington, D.C.).

He says: Bridges came to Cal. from Chile. Lived awhile in Santa Clara Valley and made a list of the birds there; went to the upper Sacramento Valley and made a list there, say Tehama Co. Went to Central America to collect orchids; on return journey died at sea; body brought home and buried in Laurel Hill Cemetery. Widow had very little or nothing but was quite thoughtless in money matters. Bridges left a collection of shells which Dall and Stearns, P.E. C., undertook to sell for him. The proceeds were turned over to the widow - But she dissipated the money right away. If she had a new silk dress, she

would wear it all the time - in the kitchen washing dishes as well as for Sunday best. Finally friends made up a fund and sent her back to her folks in England."

Palmer after much effort located the grave in Laurel Hill Cemetery and after much further effort raised a fund amongst the local amiathon gists to mark the spot with a stone.

Wm. Lobb is also buried in Laurel Hill Cemetery.

Palmer has quite a bit of "dope" about Ferdinand Deppe. (cf. Bot. Gal. 2:555).

Palmer, who is a regular "Old Mortality" says Dr. J. J. Cooper is buried in Mountain View Cemetery.

Regarding Bridges (p. 163, ante), I think Palmer said he drew notes from an obituary notice in the Proceedings of the California Academy of Sciences.

— Cont. from p. 149. In the "Greeniana" preserved at the Catholic University of Notre Dame is a photograph of E. L. Greene, a rather large one, labeled on the back: "Battlefield of Ft. Donelson. Aet. ca. 20". I have had a small cut made from this.

— Old Main Road along east side of the San Joaquin Valley in early gold days (Stockton - Fort Miller road = a part of it) see the

map in Zack Audubon's Western Journal (Arthur H. Clark edition)

— Wild Animal Life in California. Early day conditions. See "Wild Geese Galore", in San Francisco Chronicle, Dec. 21, 1887, p. 1.

— Hollisteria. This genus was named after W. W. Hollister. I find in the San Francisco Chronicle, Jan. 7, 1886, p. 8, the following article:

"A Queer Petition

Santa Barbara, Jan. 6, 1886. A petition to the President and Congress is being circulated here demanding that the Chinese in California be protected in their legal rights. W. W. Hollister and Elwood Cooper are among the signers."

The Rows in the Cal. Acad. of Sciences.

— Apparently began with the ousting of President Geo. Davidson by Dr. H. W. Harkness in 1887. I judge Mrs. Mary K. Curran was at the bottom of this**. The next year there was an opposition ticket*; and apparently also a goose opposition ticket, Mrs. Curran being seen for President. On a few ballots her name voted for every office by some wags. "Vote for Mrs. Curran" says an article in the S. F. Chronicle, Jan. 3, 1888, p. 3. There is, the next day, Jan. 4, 1888, p. 8, a longer article.

By 1894 Harkness had become well entrenched and his committee leave off his

* See p. 168. ** See p. 173.

incumbents: Dr. H. H. Behr and Charles G. Yale. See the following newspaper articles:

S. F. Examiner, Dec. 19, 1894.

S. F. Chronicle, Dec. 19, 1894.

S. F. Call, Dec. 18, 1894.

S. F. Chronicle, Dec. 26, 1887, p. 16. Brief notice re. Academy lot.

Footnote to p. 167.

* The regular ticket was headed by Dr. Harkness, President and Dr. Behr, Vice-President. See notice of "contest" in S. F. Chronicle, Dec. 29, 1887, p. 8. The Academy at this time was still in Dr. Stone's old church on California st.

— Engelmann, Geo. Doubtless he is fully considered in Dr. Perley Spaulding's "A Biographical History of Botany in St. Louis"

– cont. from p. 143. I have borrowed the latter collection of Greene from Notre Dame University in Indiana. They send me, in addition, his scrap books and certain manuscripts. The letters of Asa Gray, Geo. Engelmann, C.C. Parry are the most interesting. Gray sent long lists of determinations to Greene; so did Sereno Watson. Watson sent a very long list as late as 1883. Both Gray and Watson sent determinations later. Since Greene owed so much to these men for naming undetermined plants, I wonder how Greene's thoughts ran as to this. He criticized both men, at least by implication and often directly for mis-naming specimens &

and so causing him to make errors. But did Greene suppose that it was possible for any botanist that ever lived to make determinations of miscellaneous plants without mistake? It is likely that Greene himself thought he did it without mistake – being blind to his own errors, even when pointed out to him. For a recent estimate of Asa Gray see "As God made them" by Gamaliel Bradford.

– Dr. R.E.C. Stearns. Professor Frederick Slate knew him. Says he was a great politician in his day. Was Secretary of the Board of Regents in early days of the University. Being an inlaw New Englander he hated everything Southern. In consequence he regarded the LeContes, and W.T. Wilcox as "rebels", John and Joseph, and did everything

he could against their interest. I inquired as to Hilgard: "Oh," said Slate, "Hilgard (E. W.) was subtly diplomatic. He sympathized with the South, but he was not outspoken. As State Geologist of Mississippi he got his training in politics and how to manage." — June 30, 1929.

Christy, S. B., was on the side of Geo. Davidson, says Slate.

— Cont. from p. 154. If one needed to cast back into Greene's genealogy it seems likely that the lines would be found in Lora S. La Mance, The Greene Family and its Branches from A.D. 861 to A.D. 1904. (Floral Park, (1904). This book could doubtless be

found in a Boston library where they go so strong on genealogies. — Professor Frederick Slate says, & I came to California shortly after the Civil War. It interested me to see the manner in which former Union and Southern veterans fraternized; they respected each other; they knew!

The Revolution of 1881 we called it. At this time President ↑It was anti-Southern. LeConte was put out of the Presidency. ↑John And Wheeler put out of the University. Wheeler was southern. R. E. C. Stearns was then Secretary of the Board of Regents. He was vindictively anti-Southern!" — July 4, 1929.

** Cont. from p. 167. The first real row in the Academy. Mrs Curran the first woman in the Academy. Cherchez la femme!!

- Thurber, Geo., mention by J.R. Bartlett, Personal Narrative of Explorations in Tex., N. Mex., Calif. etc. 2: 120, 550, also ch. 17, v. 1. Arthur Schott mentioned, 2: 551. J.M. Bigelow mentioned 2: 595. First right of Cereus giganteus, ch. 18 of vol. 1. Mesquit a sign of water, 2: 130. Sand hill belt in Colorado desert, 2: 149.

- Cont. from p. 11. Klamath River, Trinidad, etc. He says he has made a real linguistic discovery in regard to Indian nomenclature in plant names and plant parts. He explained this but I failed to understand it well. He wanted to borrow specimens to use with the Indians in identifying their list of plant names.

- Just called in company with Ansel Hall, U. S. Park Service, Dr. Harvey Elmer Stork of Carlton College, Northfield, Minn. He is traveling with Hall, engaged on establishing "wild flower gardens" in the parks. - July 25, 1929.

- On Sunday, July 21, Dean Merrill at 11.00 o'clock, got off the College ave. car at Bancroft and College and started through the campus towards the Mining Bldg., carrying two heavy pieces of traveler's luggage. I have never seen him drive an auto or ride in a taxi. He walks or uses the street cars. At the time I saw him, on Sunday, he was on his way to the train to go east to New York to see about the Directorship of the New York Botanical Garden which has been

offered him. Undoubtedly he will accept it. It is, I think one may well say, the first position in botany in the New World. Having accepted it, there will be actions and reactions here, percussions and repercussions, here in Berkeley. It is not likely that the College of Agriculture will have another Director who is not an agriculturist, though it may get one who is as capable a politician. Still, Merrill's going will leave certain elements in the college lacking the political support they have learned to lean upon. Moreover Merrill has dominated the herbarium. He did not have to learn any tricks from the camel about getting one's head under the

edge of a tent. One query that instantly sprang to my mind was this: will Merrill take with him the several hundred oriental thousand sheets which he has put into the University Herbarium and which he has stamped: deposited by E. D. Merrill? Why deposited? Why not, as in the case of all other accessions, gift of E. D. Merrill? However, the sheets are all stamped with the accession number stamp of the University as the possession of the University. However, again, this would not prevent the whole lot from being borrowed for indefinite study. - July 28, 1929. Cont. p. 178.

- Cf. p. 175. Dr. Stork went with Dr. W. W. Rowlee of Cornell on the trip to Central America in relation to certain tropical woods.

-Trip to Little Oak Ranch, Vacaville, July 29, 1929. In the big willow flat or swale south of Rodeo I find:

Paris schinicles L. Full 6 ft. high in the moist shady willow thicket!

Cynara cardunculus L.

-Re. Merrill. Cont. from p. 177. Merrill is back from New York. I saw him today at the Herbarium. He was in the mood to talk and talked. He said: "I got home yesterday. I saw and talked with Britton, with some of the chief members of the Corporation of the New York Botanical Garden, including the President, DeForest. They made me a proposition which I cannot afford to

turn down. I haven't accepted yet but I have decided to do so. I want to talk first to President Campbell and Mrs. Sproule.

As I sat with the New York Botanical Garden men during the conference I had with them, I did no talking. They did the talking and told me what they would do. I merely told them what salary I had here at California, including retiring allowance.

I knew nothing of the appointment until I saw it in the newspapers. The matter had been discussed some time ago when Professor Harper spoke to me about it. He-

Berkeley D.T.

Dougall (Carnegie Institution) has recently been added to the list of Scientific Directors. He had been authorized to confer with me about the vacancy caused by Britton's resignation and did so about two months ago, here in California.

There was no dickering between us*. I simply listened. A good deal of reorganization will be necessary. A considerable number of the staff will be reaching the retiring age shortly. Rydberg is getting along towards seventy, Small is past sixty and Williams is near the retiring age.

I expect to give up here by January 1 next. — 4 Aug. 29.

* that is between the officers and directors in New York, and Merrill.

Redwood City, Aug. 17-18, 1929.

— Jimmie Davis, who went with me into the Marble Mountain country in 1908, says: Deer are reported starving to death in large numbers in the North Coast Range country [I think he said 2800 in Sonoma Co.] in the past winter. This is because they have been deprived of their natural food. Deer as well as bear and other animals put on fat in the fall to take them through the winter. This fat is accumulated by feeding on acorn mast. There are, nowadays, as many acorns as ever, but they are hollow, filled with dust or spoiled by insects. Fire no longer keeps the forest insects down and there are 50 or a 100 insects where there used to be a half-dozen. Take the manzanita berry. That berry is fed upon by the deer. But look at

manzanita berries now. Take a handfull from a bush. Nearly all will have a hole, showing that a grub is inside.

All the Siskiyou and Trinity country that was once range land has now grown up to brush — mainly in the last twenty years. The cattlemen in that county are sore at the Forest Service policy and are near open rebellion. Country that one used to ride across is now so high and dense with brush that you can't get through. Not only is there dense brush where once there was none, but brush that used to be low is now 12 to 15 feet high. Consequently the deer cannot reach the tender

shoots that used to be low enough to browse upon.

There is no doubt that the Indians in pre-white days regularly fired the forest. I myself was brought up in that practice. This matter of keeping the brush within limits was an obligation. It was a duty which one was taught, as a ritual, not to neglect. If I find a place impassable with brush it was my duty to return to that point at the proper time and clear it with fire. An Indian, living so completely in the open, learns to sense the weather. He can tell very closely the approach of a rain storm. Therefore he sets his fire, not haphazard,

but times it with reference to a rain storm. A slope is cleared by fire and the fire reaches only so far, say the summit of the ridge, when rain extinguishes it. The forest was thus purified by fire. This purification of the forest in relation to fire was of the greatest importance in the matter of insects which were, of course, destroyed wholesale."

Such is the role of fire in the forest according to James Davis, Esquire, Attorney-at-Law in California, one-time Indian lad on the forks of the Salmon!

—Miss Susan G. Stokes comes to call today. A gray-haired little woman with a pale countenance and a nervous manner. She talked quickly, often breaking off in the middle of a sentence and starting another sentence, maybe on a different idea. She talked Eriogonum exclusively or nearly so. She thinks the species hybridize spontaneously, especially quite unlike species such as E. nudum and E. fasciculatum. I encouraged her to publish her results — but she never will probably. She has been on Eriogonum at least 30 years. This summer she has been at Laramie, Washington, New York,

Kew, and at the continent, looking up Tyler. She was a friend of Mrs. K. Brandegee who doubtless gave her direction and suggestion. She teaches in San Diego High School.

— Rancho Santa Ana Botanic Garden. While Mrs. Susannah Bryant was in Europe this spring, the population centers of Anaheim, Orange and Santa Ana put through a special election to build a dam in the cañon of the Santa Ana River. This project would have flooded the rich bottom land (orange orchard) of the ranch. Mrs. B. returned in great haste from Europe and succeeded in defeating the project by the narrow margin of 200

votes! The Santa Ana river bed lies higher than the town of Anaheim and is likely in flood to break out of its bed and flood and destroy the city or its neighbors. However Mrs. B. is smart. She played upon the fears of the inhabitants by recalling the horrors of the disaster that followed upon the breaking of the San Francisquito dam, all very fresh in the minds of the inhabitants! She also complained loudly as to the effect on her "Botanic Garden." Indeed J. J. Howell says that it has been his theory for a long time that Mrs. Bryant conceived the idea of a Botanic Garden with no

improvements in order to prevent or help prevent any such appropriation of her reach for public uses as is contemplated by the cities lying on the plain below it. Hazzell says that he had no difficulty in hearing repeatedly that Mrs. B. and Dr. Bryant also were opposed to dams! — Aug. 24, 1929.

— N. T. Morov, the Russian, has just called, bringing in a collection of dried plants made by himself in the Warner Mts. during the course of an ecological study. He is leaving Berkely for Florida, having been assigned to a turpentining project by the U. S. Forest

Service. He has been with the California Forest Experiment Station. — Aug. 27, 1929.

— H. W. Graham, young slender somewhat ruddy complexion slightly auburn-tinted hair, attached to the round-the-world Carnegie Magnetic Ship now in San Francisco Bay, called on me this morning. He is doing biological work for the expedition, deep-sea plankton etc., but is primarily interested in Systematic Botany, having collected in Arizona two years ago for the Pittsburg Museum, where his chief allegiance lies in a way. He plans to collect plants at ports of call, and get as far inland as possible. I gave him all

the information I could about the possibilities of collecting in the southern hemisphere and the addresses of various botanists and zoologists.— Aug. 30, 1929.

—, Cont. from p. 188. It appears also that Dr. Blankinship (cf. ante p. 1; also p.* I was invited down to the Rancho Santa Ana and accepted the invitation; but says Howell, his peculiarities were too much even for Mrs. Bryant.

— Cont. from bottom p. 63.

See Men and Manners, vol. 6, p. 27 (Jepson Private Journal) for sequel of this matter.

* Somewhere above it was noted, I think, that Mrs. Bryant had met Dr. Blankinship by appointment in (cont. p. 190).

— Francis P. Farquhar, Editor of the Sierra Club Bulletin, took dinner with me at the Berkeley Inn on Saturday night. He has in his possession the Journal letters which Brewer, W. H., wrote home to his family, 1861–1864, while on the Geol. Survey. He is to publish this journal and wished me to identify plants referred to, which I did. Interestingly enough Brewer falls in with Thos. Bridges; Bridges is on his way to Silver Mountain City where there is a mining excitement at the time. The title of the journal is to be "Up and down California", a fine one. — Sept. 1, 1929.

Cont. from bottom of p. 190.
San Francisco. She bought a set of his dried plants. He had written her at Rancho Santa Ana, applying for the job of running the garden, and she wished to look him over.

— Rainfall. Year 1928-1929 the driest during period of records (42 years), save 1923-1924, at Berkeley.

— Dr. G. R. Ireland, the paleobotanist of Yale Univ. is here. Talked with him at Dr. W.F. Chaney's "work-shop" this morning. He mulled over his point that primitive types do not have to originate in the tropics, they may originate in cold as temperate regions. Ginkgo is found plentifully in Siberia just where it might be. The Cycads can endure cold and and are not improperly found in northern latitudes. He referred to R.H. Knowlton's thesis that internal earth heat was necessary for the

evolution of forms of seeds plants. Ireland's statement is opposed to this — but he is impressed by Knowlton's view and admits that there may be something to it. At any rate said he, something has been happening back there that we do not fully know about, some conditions have prevailed that we have not lined up.

In some way W. H. Brewer's name came into the conversation. He spoke of Brewer as an old-time wheel-horse at Yale, a sort of heavy-weight an [illegible] that you anchored under the shelter of; a man who said certain things of weight to you that gave you

comfort and made you feel that you wanted to go ahead. Brewer was a part of a mountain, a mass of information on an amazing number of subjects.

While Wieland was talking I made an occasional good-humored dig at his remarks. He called Brewer a botanist. I said he was not a botanist and pointed out how quickly he got stalled on the Botany of California volume that he started to write. I remarked if he were a wheel horse he must have pulled something. What did he pull? Wieland gaily said Brewer was Professor of Agriculture, though what Brewer had ever written

that was of importance he had never found out. Agriculture was an anomalous chair in Yale anyway. He didn't know that there was any such chair any longer, since Brewer passed on. — Sept. 23, 1929.

— E. B. Copeland says: Professor W. R. Dudley was so constituted that no one could be long near him without his developing a strong antipathy to that person. He was pathological in his temperament. He conceived a strong dislike for D. H. Campbell and never went near him, never visited Campbell's laboratory. So far as space is concerned Dudley had more space than Campbell. It was attic space to be sure and unfinished, but

every one was in the same boat. Campbell had only one room for students and a little room for an officer.

C. F. Baker was at Stanford when I was there as an instructor. He worked under Dudley as a student and also collected plants for sale at the same time. He had to have names for his plants and have them pretty promptly. Dudley delayed for long periods in giving him names and so he sent the specimens on to E. L. Greene who returned names almost by next post. After Baker had been at this job about six months, one day, suddenly, Dudley broke loose on him in great wrath. Dudley said that Baker was interfering in a field which

Dudley had marked out for himself, a field in which all his hopes were centered, his ambitions focussed. He pointed out that Baker was sending elsewhere for determination the plants which ought to be studied by Dudley. Baker offered to give to Dudley a complete set of his distributions, but apparently this did not mollify Dudley. Baker went away to cogitate and apropos of Dudley's remark about his pre-emption of the Peninsula region, Baker naïvely asked where Miss Alice Eastwood came in. Dudley was furious and told Baker he must get out. Baker embodied get out in the middle of the year and removed his